SOME MANIFESTATIONS OF A HEALTHY HEART IN THE YOUNG FREQUENTLY TAKEN AS INDICATIONS FOR TREATMENT.*

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WHEN I was asked to take part in the discussion on the treatment of heart disease in the young, I cast my mind back on my experiences to see if I could usefully join in the discussion. On reflection, I was struck with the fact that I had seen a large number of young people who had been subjected to many forms of treatment because of the presence of certain phenomena which my experience had taught me were signs neither of disease nor of impairment. When I reflected further on why it was that members of our profession frequently misapprehended the significance of cardiac phenomena, I could only attribute it to the state of confusion in which cardiac symptomatology has been involved, and the manner in which it is taught in the schools. It seemed to me, therefore, that it might be profitable to place before you the results of some observations which I have made in the endeavour to appreciate the significance of certain cardiac phenomena, inasmuch as the first step towards treatment is a knowledge of what you are going to treat.

The Essential Purpose of a Medical Examination.

The main object of a physician's examination is to determine the value of certain symptoms of which the patient may complain, or the value of certain signs which the physician may detect. After the examination the essential questions which the physician has to answer before he considers the question of treatment are: What bearing has such a sign or symptom on the efficiency of the circulation? Does their presence indicate heart failure, or do they foreshadow its occurrence at some future period?

In order to show how difficult it may be to answer these questions I would refer to a deficiency in our knowledge which confuses and misleads those who seek an answer.

How this Purpose Fails.

(*a*) *In the Case of Irregular Action of the Heart.*—Let me illustrate this in a very simple fashion. Let us suppose a doctor detects in his patient or himself an irregular action of the heart, and he wishes to understand its significance. In other words, he wishes to answer the questions which I have just enumerated. Does the irregularity indicate heart failure at the present time, or does it foreshadow its possible onset at some future period? He turns to his textbook for enlightenment, but fails to find the answer to his questions. He may ransack a medical library and even then he will fail to get an answer, or the slightest suggestion as to how to approach the subject. Some large books ignore the subject, others deal with it in so perfunctory a fashion that no clear perception is forthcoming, while in the remainder the subject is dealt with in such a way that it merely bewilders the reader. Thus he will find such statements as that irregular action of the heart is of little or no importance; then a few pages further on the same writer will state that he rejects candidates for insurance if they show an intermission of the pulse at rare intervals. In the description of grave conditions, a passing allusion to irregular action of the heart may convey the idea that it is one of the signs of a serious condition, but there is not the slightest hint given to help the reader to differentiate the innocent from the serious.

(*b*) *In the Case of Murmurs.*—If it is desired to estimate the significance of a murmur, the same absence of reliable information is found here. This subject, which has received such long and exhaustive study, is invariably dealt with in such a manner that it would be impossible for the reader to glean information which might enable him to answer the questions which I have put, except perhaps in the case of some murmurs associated with advanced disease. Consider, for instance, the origin of the present day conception of the significance of heart murmurs. Within a few years of the discovery of the stethoscope the murmur was looked on as a sign of disease. This was at a time when the cause of the murmurs was not understood and before any one had watched individual cases long enough to find out what the influence was on the life of the person affected. Doubtless much has been done since then to throw light upon this subject; nevertheless, the early teaching has so affected the profession that the great majority of medical men to-day are labouring under the erroneous doctrines taught in the early days of auscultation, and so look upon murmurs as evidences of disease or impairment of the heart. Upon this imperfect conception of the meaning of murmurs another idea has been based—namely, the back pressure theory of heart failure. While this theory contains some element of truth, it is so applied as to give a totally false conception of heart failure in the great majority of cases. Thus we find cases with a mitral murmur, systolic in time, diagnosed as mitral disease, and, if there are no signs of heart failure, the individual is said to have "mitral disease, with good compensation." The very term "compensation" conveys the idea of impairment, and that a special effort of the heart has enabled it to combat this weakness. It is in consequence of this misleading conception of heart failure that we find the great majority of heart affections labelled by the murmurs which the heart happens to make, although the cause of the murmurs has nothing to do with the failure of the heart.

(*c*) *In the Matter of Prognosis.*—This great deficiency in our knowledge of cardiac matters comes out with irresistible force when an attempt is made to deal with prognosis. Practically every writer who gives the matter his serious attention is forced to admit that we do not possess the data on which to build a reasonable and sound prognosis. One of our greatest and most experienced clinicians, the late Sir William Gairdner, has accurately described the position of the medical examiner for life insurance in his method of estimating a life value. He says: "There is an incalculable element in most of the cases . . . which we deal with in the most curiously unsatisfactory way, either by rejecting the life altogether, or by putting on a big loading, which, it must be admitted, we assess upon no very sound or clear principles, or, on the other hand, by winking at the defect and passing it over." He points out that there are no reliable data on which to estimate the prognostic significance of murmurs and irregularities. This description of the absence of reliable data on which to base a prognosis holds good to-day, not only in life insurance, but wherever a prognosis is based on a physical examination.

I dwell with insistence on this great defect in our knowledge of the significance and meaning of cardiac phenomena, in order that you may better appreciate certain investigations which have been pursued with the purpose of clearing up these matters. I am far from saying that this deficiency has been made good, for that will require the continued labour of many observers; but there are certain lines which must be followed, if this object is ever to be attained, and these I will briefly indicate, and cite some of the results which have been achieved.

Method Employed to Find Out the Meaning and Significance of Signs.

Let us first consider irregular action of the heart. Shortly after entering general practice over thirty years ago, I was struck with the frequent occurrence of irregular action of the heart among my patients, but at that time the subject was dealt with in textbooks in such a way that no trustworthy estimate could be made of its nature or significance. I began in a very simple way to seek for some basis of classification, and was able to separate some of the irregularities into groups according to the different ways in which the chambers of the heart participated in their production. Later this subject was taken up by many other observers, who studied it both clinically and experimentally, and as a result of these labours irregular action of the heart, which until a few years ago was one of the most obscure subjects in clinical medicine, is now one of the best understood, and our knowledge is based upon sound physiological data. This separation of irregularities into groups according to the mechanism of their production is sometimes looked upon as being merely an academic exercise of little practical importance. As a

* Read at a discussion on the treatment of heart disease in children at the Royal Society of Medicine on December 13th.

matter of fact it was a preliminary but absolutely necessary step to find out the bearing of these irregularities on the patient's present and future state.

How the Knowledge of the Significance of Irregularities was Acquired.

To find out the bearing of the different forms of irregularities on the patient's future necessitated a line of observation of much greater difficulty and perplexity. It entailed the watching of many individuals during long periods of years, observing young people growing up into manhood, seeing how the heart behaved during periods of strain, as hard bodily work, pregnancy and labour, illnesses, such as typhoid, pneumonia, influenza, and finding out how they reacted to remedies. When heart failure was present it was necessary to find what bearing the cause of irregular action had on the heart failure. In course of time I was able to suspect the cases in which certain irregularities would arise; these I kept in view, examining them from time to time, in order to detect the moment of onset of the irregularity, and also the changes which occasioned it. By this means, for instance, I was able to detect the changes which are coincident with the onset of the irregular heart, which we find in cases of auricular fibrillation. To give you some idea of the labour it has entailed to gain this limited amount of knowledge, I may say that I have taken tens of thousands of tracings, and the great bulk of these have been subjected to long and careful analysis. Such tracings are only incidents in the investigation, being invariably accompanied by a search, often prolonged, into other signs exhibited by the patient.

The Recognition of Irregular Action and its Significance.

To illustrate the importance of this work I shall direct your attention to the valuable information regarding some of the irregularities which has been obtained. The great majority of heart irregularities can be divided into four groups, all differing in the mechanism of their production and in their clinical significance.

(*a*) *The Pulsus Alternans.*—The first of these irregularities to which I would draw your attention is a form which is regular in its rhythm, a large beat alternating with a small one (Fig. 1). This irregularity, known as the

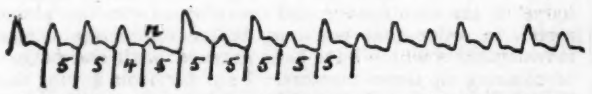

Fig. 1.—Tracing showing the alternate appearance of a large and small pulse beat—the *pulsus alternans*. The figures represent tenths of a second, and the rhythm is regular except for the appearance of a premature beat, *r*.

pulsus alternans, only occurs when there is great exhaustion of the heart muscle. It may be that the exhaustion is only temporary, as in the tachycardias which arise from an abnormal action of the heart, or it may arise from exhaustion due to such profound alterations in the heart muscle that it indicates in many cases an exhaustion so extreme that death will shortly follow.

(*b*) *The Irregularity of Auricular Fibrillation.*—The second of these irregularities is, as you will see, of a very

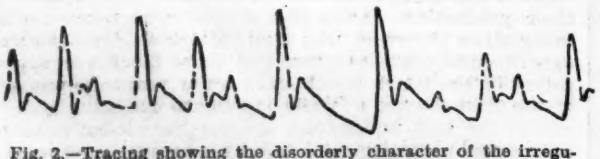

Fig. 2.—Tracing showing the disorderly character of the irregularity in auricular fibrillation.

disorderly kind (Fig. 2). It indicates the presence of fibrillation of the auricles, and from the point of view of the future life of the patient it has a very varied significance. I have collected over 1,000 cases of this form of irregularity alone, and it occurs in 70 per cent. to 80 per cent. of all the cases of heart failure with dropsy. Some of my patients have died within a few days of its onset; some have lingered for a few months; others have lived a crippled existence for years, while still others may have been little the worse for its appearance. I have endeavoured, by the study of other phenomena present, to find out the reason for these varied results, and I think we can now formulate with reasonable certainty the facts which guide us in a prognosis and the data on which to base a rational treatment.

(*c*) *The Extrasystole.*—The third form of irregularity is extremely common in adult life and rather infrequent in the young (Fig. 3). It is due to a premature contraction

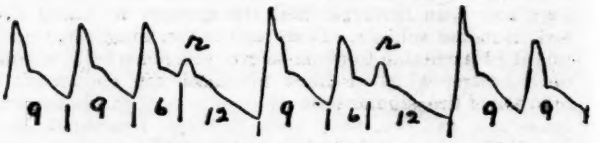

Fig. 3.—Tracing showing the occurrence of two premature beats or extra-systoles (*r*, *r*) in an otherwise regular heart. The figures represent tenths of a second.

followed by a long pause. The vast majority of people who show it are in good health and never suffer from heart failure. It may be present in heart affections and with serious heart failure, but an opinion of gravity should never be based on it alone, but on the presence of other signs of heart failure. When it is the only abnormal sign present it may be ignored, as far as its effect on the functional efficiency of the heart is concerned.

(*d*) *The Youthful Type of Irregularity.*—I wish to draw attention particularly to the fourth group—a group which is characterized by a variation in the length of the diastolic

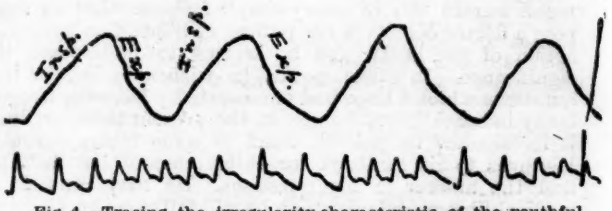

Fig. 4.—Tracing the irregularity characteristic of the youthful type. The phases of irregularity correspond in the main with the phases of the respiration (upper tracing), the slow period appearing during expiration.

period (Fig. 4). It is readily recognizable on auscultation by the varying length of the long pauses between the second and first sounds. So long may these be at times that the heart seems to miss a beat. It is frequently respiratory in rhythm, the slow beats occurring during expiration. At other times it may not be so accurately related to the phases of respiration, but it can sometimes be made so by getting the individual to breathe slowly and deeply. On classifying cases showing this irregularity I found the great majority of them were young people. Directing my attention to the occasion of its occurrence, I found that it would appear and disappear in the same individual for no perceptible reason. I found it so common that I have come to the conclusion that every healthy individual probably shows it at one time or another. I found it occurring most frequently and most markedly when the patient lay in bed after a febrile attack, but it is often found in boys and girls in perfect health. I have watched those showing it grow up and pass into adult life, and I have never found a single case where it has been associated with any form of heart failure, so that I now look upon it as being a physiological phenomenon and occurring in perfectly healthy hearts. How very important it is to recognize this view will be apparent later on.

The Significance of Murmurs.

In order to find out the significance of murmurs I followed the same lines as those I had pursued in determining the significance of irregularities. Here I shall not enter into the results of this inquiry into murmurs due to damaged valves, but shall restrict myself to those murmurs which are recognized as functional, and to those where it is doubtful whether they are functional or organic. These are always systolic in time, and their position of maximal intensity may be at the apex, base, or mid-sternum. The result of this inquiry showed that these functional murmurs in themselves were consistent with perfect health, and that their cause never led to the slightest sign of heart failure. Where these murmurs were associated with heart failure there were invariably evidences that the heart failure was the outcome of the myocardial condition and not of the supposed incompetent valves. In any given case with heart failure there was usually present some condition which impaired the functional efficiency of the heart muscle, and induced an exhaustion of it such as occurs in an exhausting illness, or with structural changes, as fibrous or fatty degeneration of the muscle wall. Now these conditions happen so rarely in the young, and when they do happen the evidences of actual disease are so striking, that I am justified in stating that functional murmurs in the young, in the absence of evidence of muscle affection, are signs neither of disease nor of impairment.

Irregularities and Murmurs Consistent with Perfect Health.

I have put this view to the test by watching a large number of individuals, and by following the lives of those showing these signs for such long periods that I have no hesitation in saying that murmurs and irregularities may be manifestations of a perfectly healthy heart in the young. The recognition of this fact is of great importance, for if the knowledge that healthy hearts do frequently present murmurs and irregularities was fully grasped, then the doctor would study his patient from a different perspective, and would cease to be obsessed by these and other seeming abnormalities, but would direct his search towards finding out how far the cause of these and other phenomena modified the functional efficiency of the heart.

Importance of Muscle Impairment.

When the fundamental principles underlying the production of heart failure are thoroughly understood, it will be realized that the heart failure, whatever form it may take, is due to an impairment of the functional efficiency of the heart muscle. So far, then, as heart failure is concerned, the significance of any sign must depend on how far its cause embarrasses the heart muscle in its work. It follows therefore that a murmur or an irregularity is only of significance when it is associated with some manifest impairment of the heart muscle, and that an inquiry must be made which will bring out the true meaning of any sign by searching for evidences of muscle impairment.

Signs of Muscle Impairment.

What are the evidences by which we can recognize affections of the heart muscle? Except for certain irregularities, which in rare cases give very important information, the evidence is somewhat limited.

(*a*) *Increase in the Size of the Heart.*—The first of these is a change in the size of the heart, due either to dilatation or to hypertrophy of its walls. Before we can assume that any increase in size is abnormal, we must first remember that there is no standard size, shape, or position, and that the variations which healthy hearts, especially in the young, can show, are very considerable. Doubtless in certain diseases of the heart the increase in size is so marked and so characteristic that little difficulty is experienced in recognizing it as a morbid condition. With functional dilatation, however, the difficulty of recognizing its significance is so great that evidence based upon increase in size, unless this is extreme, should never by itself be considered as sufficient evidence. If it is associated with persistent increase in the rate of the heart and marked loss of power, then it forms a valuable indication. But an apex beat in the fourth or fifth interspace, one inch outside the nipple line, is not in itself an evidence of muscle affection. It is well also to bear in mind that impairment of the heart muscle, dangerous to life, may be present without increase in the size of the heart.

(*b*) *Murmurs not Necessarily a Sign of Dilatation.*—A systolic functional murmur must not be considered as due to the dilatation, because these murmurs may not be the outcome of the dilatation. If a large number of healthy hearts be carefully examined it will be found that some show murmurs with the heart of a size usually assumed to be normal. These murmurs may come and go when there is no change in the size of the heart; they may be perceptible only when the individual is lying down or when he is standing up; sometimes they are only present when the heart is excited, at other times they are found when it is beating slowly and quietly. It frequently happens that though there may be marked dilatation, with and without considerable heart failure, no functional murmurs may be present. From such considerations as these we are forced to the conclusion that the mechanism which produces the murmur is something apart from that which provokes dilatation of the heart. The view so widely held that these systolic functional murmurs indicate regurgitation, and that in consequence there is a danger of this regurgitation embarrassing the heart and leading to heart failure, is merely an outcome of the back pressure theory and has no existence in fact.

(*c*) *The Condition of the Functional Efficiency of the Heart.*—The best and most accurate, and, in fact, the only reliable method of estimating the condition of the heart muscle is to acquire a knowledge of its efficiency, and, if it be inefficient, the extent of its limitation. This method consists in finding out how the heart responds to effort and recognizing the symptoms which indicate its exhaustion. In the limited time at my command I cannot enter into a description of the physiological principles involved in this method of estimating the state of the heart muscle, nor of the manner in which the symptoms are evoked. I shall only state that the chief symptoms are subjective, the individual himself being conscious of his limitations. This method may seem to you to be so obvious as not to need mentioning, but it is probably because it is so commonplace that its importance has never been appreciated. It may also seem so simple that any one can apply it; on the contrary the symptoms are at times so subtle and elusive that it requires very careful investigation before they can be appreciated. So many subjective sensations are connected with the circulation that it requires the most careful discrimination to find out those which are indicative of an exhausted muscle.

There is no doubt that many physicians have learnt from their own experience what I am endeavouring to place before you, but this knowledge is not conveyed with such precision and detail as to make their meaning clear. Thus, until recent methods were employed, the different forms of irregularity were never even classified on a basis of the slightest value for practical purposes. The method of estimating the heart's strength by testing the functional efficiency, which is the most essential part in every examination, has been to a great extent neglected. In proof of this, consider the insurance certificate which medical men fill up. All the questions are restricted to the physical examination and not one directed to finding out the functional efficiency of the organ, by which only the facts which are essential to a prognosis of the heart's condition can be ascertained. Notwithstanding, the books which are supposed to guide the medical examiner give no hint that such a method exists. The result is that I have seen individuals accepted at normal rates because a physical examination revealed no abnormality, whereas if an inquiry had been directed to the functional efficiency of the heart, the symptoms of exhaustion which heralded the unexpected death of the individual would have been revealed. On the other hand, I frequently see individuals rejected for life insurance because of the presence of some harmless manifestations, whose significance the examiner did not understand, and whose value he could not appreciate, simply because he failed to apply and to appreciate this method of testing the heart's efficiency.

The Method of Teaching Cardiac Symptomatology at Fault.

Probably the whole error arises from the manner in which the student is taught when he passes into the

medical wards. Here he is handed over for instruction in the physical signs to a clinical tutor, a teacher whose knowledge is so little in advance of his own that he does not understand the significance of the facts which he teaches. Under the care of this clinical tutor, at a time when he is most susceptible to impressions, he has hammered into him a certain kind of knowledge which remains with him and influences him during the remainder of his life. Thus, he is taught how to recognize the sounds of the heart, the size of the heart and its rate and rhythm, and what is supposed to be the normal in a healthy individual. Then he is shown, as a contrast, diseased conditions, with murmurs and muffled sounds, hearts of varying sizes, rates, and rhythm. Consciously or unconsciously, he gets the idea that a heart to be healthy must be of a certain size, the sounds clear and free from murmurs, and the rate regular. This idea may be sought to be modified by more experienced teachers later on, but I am certain that every medical man who passes out of his hospital training does so with a false conception of the nature of phenomena which a healthy heart can exhibit. How this works out in after-life I will show you immediately.

How this Imperfect Teaching Affects the Practitioner in his Work.

You may think I am dealing at too great length with the part which the medical man plays, but if we wish to appreciate the full consequence of our errors and misconceptions, we must know how they have arisen. In order to bring before you more clearly the significance of what I am trying to prove to you, I will refer to my own experiences. Some ten or fifteen years ago there arose a strange notion of the dangers of athleticism in schoolboys and college youths. I think this originated in London, but at all events it speedily spread over the face of the earth. Exponents of the idea did not limit their views to the medical press, but, if I remember aright, warnings were written in the lay press by some of our learned colleagues. So widespread did this doctrine become, that great numbers of boys returned to school with certificates of unfitness to play the usual games, to such an extent that in some schools one half of the boys were supposed to suffer from impaired hearts. At this time I was pursuing my work in an isolated town in the north, and I wondered what were the symptoms by which these enfeebled hearts were recognized, and what were the evidences of an athlete's heart. My boys played strenuous games and entered into occupations entailing severe bodily labour, but I never saw any of them unfit unless they had manifest disease of the heart. It was not until I came to London five years ago that the real solution dawned upon me. The first consultation which I had in London was concerning a young girl who had fainted. She lived in the country, and a London physician was called in, who recognized some form of heart abnormality, and had her removed to London to undergo a course of what is called Nauheim treatment. She had had two courses and had been under treatment for three months when I was asked if I could suggest any remedy for this intractable complaint. Judge of my surprise when I was told that the only evidence of disease was a persistent irregular action of the heart, which I found to be the youthful type of irregularity—a phenomenon so far from being a sign of disease is, as I have told you already, presumptive evidence of a perfectly healthy heart. From this time onwards young folks were brought to me in increasing numbers, until I have seen a very large number of youths who were supposed to have athletic hearts, or were supposed to be unfit to play games or to row, because of some impairment of the heart. Except in a few instances of manifest heart disease, the evidence on which the heart's impairment was based was those manifestations of murmurs or irregularity which my experience had shown to be perfectly consistent with a healthy heart. In addition, I have seen a great many youths who have been rejected for life insurance and for the services, and other occupations which entail a preliminary medical examination, because of the presence of these manifestations of a healthy heart.

In my communications with medical men I have found the notion that a murmur or an irregularity is an evidence of disease so deeply rooted that it is simply impossible to get many of them to look at the evidences which point to the contrary. I have had a great deal of disagreeable correspondence with doctors after I have written to them about youths whose hearts I have pronounced healthy in spite of murmurs or irregular action. I have had replies to the effect that they have had great experience in this subject, and that they know I am wrong. I have asked such correspondents to recite to me the history of one single individual who has ever shown the slightest sign of heart failure, in whom these symptoms were found, and so far I have failed to get the history of a single case. Nay, more, although you will find in the writings of authorities grave warnings of the danger impending on youths who show these phenomena, yet I have failed to find the record of a single case in which these forebodings were realized. Considering how numerous are individuals showing these signs, and considering the strenuous games which are played and the strenuous lives that are lived, had these signs the gravity they are assumed to have, there would be on record many cases of heart failure, yet, as I say, literature is silent on the subject.

OBSERVATIONS UPON THE ACOUSTIC PHENOMENA IN MITRAL STENOSIS.

(Preliminary Communication.)

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Method.

SIMULTANEOUS electrocardiogram (lead *II*) and heart sound record are taken, the latter by means of a microphone and separate string galvanometer. The two curves lie side by side on the same photographic plate, and the time relations of first and second sounds and murmurs

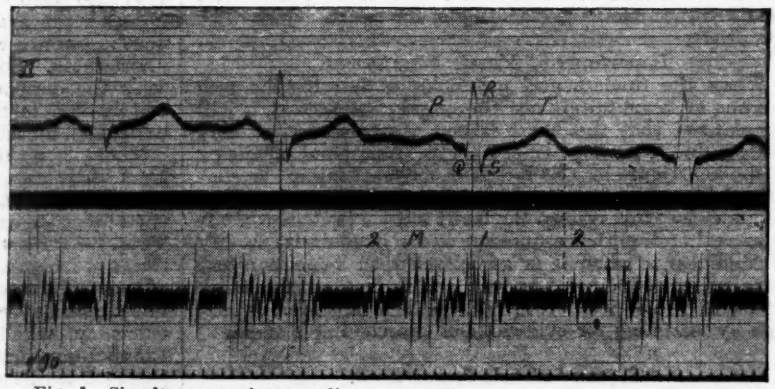

Fig. 1.—Simultaneous electrocardiogram and heart sounds record. The upper curve shows, *P*, the auricular summit, and *Q*, *R*, *S* and *T*, the ventricular deflections. A hard verticle line is drawn at the commencement of systole; a dotted vertical line at the commencement of ventricular diastole. The lower curve shows the heart sound record: *1* = the first heart sound; *2* = the second heart sound; *M* = diastolic murmur. Taken from a case of mitral stenosis.

to the separate deflections of the electrocardiogram are calculated (Fig. 1).

Observations.

Preliminary observations, with a view to determining the time relation of the sounds at the apex beat to the electrocardiogram, were first undertaken in fifteen normal subjects.

1. The time relation of the normal first sound to the initial deflections of ventricular systole is variable. It may commence within 0.011 sec. of *Q* or within 0.002 sec. of *R*, or it may be delayed until 0.026 sec. after *R* or 0.039 sec. after *Q*. Usually it begins a little before or after the summit of *R*.

2. The time relation of the normal second sound at the apex to *T*, the last electrocardiographic deflection, is variable also. It may commence 0.01 or even 0.03 sec.

* Work done under the tenure of a Beit Memorial Research Fellowship, and aided by a grant from the British Medical Association.

before the end of T, but more usually it starts at the end of T or 0.01 or 0.02 sec. afterwards.

The sound curves from cases of mitral stenosis were taken in two series—a series over the area at which the diastolic murmur was audible, and a control series over areas at which the murmur was inaudible.

The positions and duration of the murmurs were estimated after careful comparison of the two sets of curves.

1. The time relation of the first and second sounds in the control curves of mitral stenosis are practically the same as in normal hearts. The sounds are usually much more intense, though of similar duration to those of the normal heart.

2. When the heart is beating regularly and the sequence of contraction is normal, the shortest diastolic murmurs of mitral stenosis precede the first sound, and consequently precede the initial rise of intraventricular pressure. They lie in presystole.

3. Generally speaking the presystolic or diastolic murmur is not a crescendo; the crescendo is an effect of the proximity of the loud first sound. The vibration frequency of the murmur is from 41 to 107 per minute. The murmur begins from 0.05 to 0.22 sec. before the commencement of R and runs up to the first sound. Usually it occupies the whole or greater part of diastole.

4. When fibrillation of the auricles is present an isolated presystolic murmur does not occur; the fixed time relation of the murmur is to the early phases of diastole; the murmur runs over a variable proportion of diastole, according to the variation in the length of the latter; in the longest diastoles and in slow acting hearts there is a period of silence between murmur and first sound; in a shortest diastole the murmur may occupy its whole extent.

5. When heart-block is present the position of the diastolic murmur is largely controlled by the position of the auricular contraction.

It is concluded that the diastolic murmurs of mitral stenosis are due to the rapid onflow of blood through the stenosed mitral orifice. Those periods of diastole are occupied by murmurs, during which the velocity of flow reaches a certain grade. When the auricle contracts at the normal time and the heart beats slowly, the velocity tends to be greatest in presystole. Otherwise it is usually greatest in early diastole; these are the periods at which murmurs are most commonly audible.

REGIONAL ANAESTHESIA.

BY

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THE greater attention recently devoted to the subject of anaesthesia, and greater knowledge of the subject, has revealed dangers that were before unknown and has shown how very much the ultimate well-being of the patient depends upon a careful selection of the method of anaesthesia used. It is quite obvious that the remote dangers of some anaesthetic drugs are far greater than the immediate, and it does not seem improbable that these sequelae may be more serious and far-reaching than we even now realize.

As the dangers of general anaesthesia in certain cases have been more fully appreciated, more attention has been devoted to the subject of local anaesthesia; so much so that if the condition of a patient is such that the administration of a general anaesthetic is likely to be specially dangerous, almost any operation of necessity can be successfully and painlessly performed under some form of local anaesthesia.

Until comparatively recent years local anaesthesia was very little used, on account of the toxicity of cocaine, the agent usually employed. But with the introduction of the comparatively innocuous substances, stovaine, novocain, and eucaine, considerable attention has been devoted to the subject, and great strides have been made in the technique of this form of anaesthesia.

Broadly speaking, local anaesthesia may be placed under three heads:

1. *Spinal anaesthesia*, in which some form of anaesthetic drug is introduced into the spinal theca.

2. *Local infiltration anaesthesia*, in this case a very weak solution of the anaesthetic drug is employed, and the whole area to be operated upon is infiltrated with the solution.

3. *Regional anaesthesia*, a stronger solution of the anaesthetic drug is employed, and a small quantity is introduced around the nerve trunks which supply the part to be operated upon at some part of their course which is anatomically accessible.

The choice of the one or the other of these methods depends upon the condition of the patient, the necessities, and also upon the site of the operation. It is fortunate that for those cases in which one form is not suitable another frequently is. The advantages of spinal anaesthesia in septic abdominal conditions, especially acute appendicitis in the young, associated with much toxaemia, and in those cases in which abdominal relaxation is required, such as the radical cure of large irreducible herniae, ventral herniae, cases of intussusception and prostatectomy, are too well known to require further discussion here.

For those cases, such as cysts in the upper part of the breast, subcutaneous lipomata, the radical cure of hydrocele, varicocele, and varicose veins, in which it is often difficult, if not impossible, to isolate the nerve trunks supplying the part, the wide infiltration method with a weak solution is certainly preferable.

Regional anaesthesia can be used for any type of operation upon any part of the body supplied by nerves which are at some part of their course anatomically accessible. By anatomically accessible is meant that the nerve shall lie in such a position that it is possible to pass a fine needle down to it, and so introduce the analgesic fluid. It is almost impossible to inject the fluid around a nerve lying amongst muscles, as the difficulty of gauging the depth from the surface is so great. Further, even if the needle is introduced into the neighbourhood of the nerve trunk, the point may easily have passed through a layer of fascia or the sheath of a muscle, so that however much fluid is introduced, it will not be distributed around the nerve. In some few instances this direction of the fluid by the fascia may be utilized to facilitate the injection, the nerve itself lying in some fascial compartment, which can be filled up with anaesthetic solution. The musculospiral nerve in the arm or the median at the wrist are both cases in point.

The characteristics of this form of anaesthesia are:

1. Granted that a suitable anaesthetic solution is introduced around the trunk of a nerve, the whole area supplied by that nerve becomes anaesthetic—bone, muscle, fascia, skin, etc.

2. The method can be used for operations upon inflamed tissues provided that the injection around the nerve trunk be made at some point well above the septic area.

3. The anatomical relations of the part to be operated upon are not obscured by oedema caused by a large quantity of injected fluid, as is sometimes the case with the wide infiltration method.

4. The anaesthesia lasts for several hours.

5. The anaesthetic area is clearly defined by the anatomical distribution of the nerves. Consequently there is no risk of suddenly overstepping the limits of the anaesthesia, with most unpleasant results to the patient.

A very important factor in the success or otherwise of this form of anaesthesia is the solution used.

Either eucaine, stovaine, or novocain may be employed, but the best results in my hands have been obtained with novocain. A 2½ per cent. solution of novocain in distilled water is prepared and sufficient sodium chloride added to make the fluid isotonic with the blood. The whole is then sterilized by boiling, which can be done without detriment to the novocain; it is, of course, absolutely necessary that this fluid should be sterile, and for this reason it should be freshly prepared for each case shortly before using. The formula of the solution is:

Novocain	2.0 grams.
Sodium chloride	0.5 gram.
Distilled water	to 100 c.cm.

5 drops of a 1 in 10,000 solution of adrenalin are added to each 20 c.cm. of solution immediately before use.

When the fluid is injected into the tissues the vessels are

constricted, and the solution consequently tends to be confined to the site of injection, so causing the anaesthesia to be more prolonged.

The apparatus required for the injection of the analgesic anaesthetic fluid consists of a syringe and a number of hollow needles; by far the most convenient form is the ordinary record syringe with glass barrel. This can be obtained in a variety of sizes; the most useful for this work is that graduated to 20 c.cm. A number of needles of different sizes and lengths, all detachable from the syringe barrel, are required.

The Technique of Injection.

It is absolutely necessary that this should be performed with the most rigid aseptic precautions. Under no circumstances should the injection be made through an inflamed area or very near an infected area. The skin over the point at which the injection is to be made should be prepared as for a surgical operation. A solution of iodine in ethylene dichloride used as a paint immediately before the injection is both convenient and effectual for this purpose. Some of the anaesthetic solution having been sucked up into the syringe, a very fine needle is introduced beneath the epidermis and a few drops of the solution injected, so that

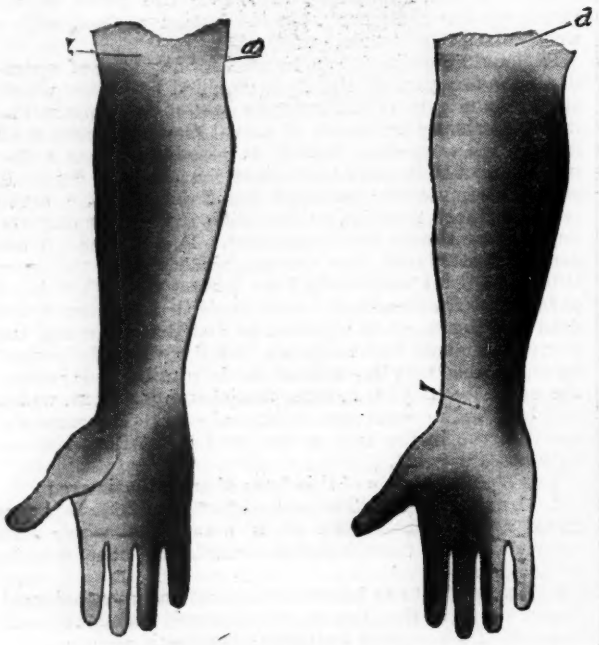

Fig. 1. Fig. 2.

Anterior aspect of hand and forearm.

a minute blob is raised. This can be done with practically no pain. A slightly larger needle is next introduced through the blob down to the nerve trunk. When introducing the needle it is preferable to remove it from the barrel of the syringe, as it is much easier to gauge the exact position of the point if the heavy syringe is not in place. As soon as one is satisfied that the point of the needle is in the neighbourhood of the nerve trunk, the barrel of the syringe can be slipped into the wide base of the needle and the injection made.

The actual site of injection of course depends upon the nerve supply of the part to be operated upon. For instance:

To anaesthetize the index finger it is necessary to block the median and radial nerves; if it is desired to render the great toe anaesthetic, as for an operation for hallux valgus, it would be necessary to block the anterior tibial, musculo-cutaneous, internal saphenous, and internal plantar nerves.

It is frequently much easier to inject around a nerve trunk at a more proximal part of its course rather than around the actual branch which it is desired to anaesthetize. Consequently it is preferable to inject around the musculo-spiral nerve in the arm than around the radial in the forearm. Again, one would never think of injecting the anterior tibial or musculo-cutaneous nerves in the leg, but would most certainly inject the external popliteal trunk.

As a general principle, it is easier to inject around a nerve as it lies against a bone, as this provides a landmark which ensures that the right level is reached. It is very much more difficult to gauge the depth of a nerve than its position as regards surface marking. If possible, points should be chosen for injection where the nerve either lies against bone or on the deep fascia, not amongst muscles, etc.

The accompanying diagrams, prepared from actual cases, show some of the more convenient and useful points for blocking the nerve trunks and the anaesthesia following.

This method of anaesthesia demonstrates very clearly the remarkable overlapping of nerves in their distribution. Consequently it is often necessary to inject around more nerves than at first sight seems anatomically requisite.

In the illustrations the degree of analgesia is indicated by the depths of shadow; the darkest portions represent complete loss of sensation.

Anterior Aspect of Hand and Forearm.

Fig. 1 illustrates anaesthesia following blocking of the

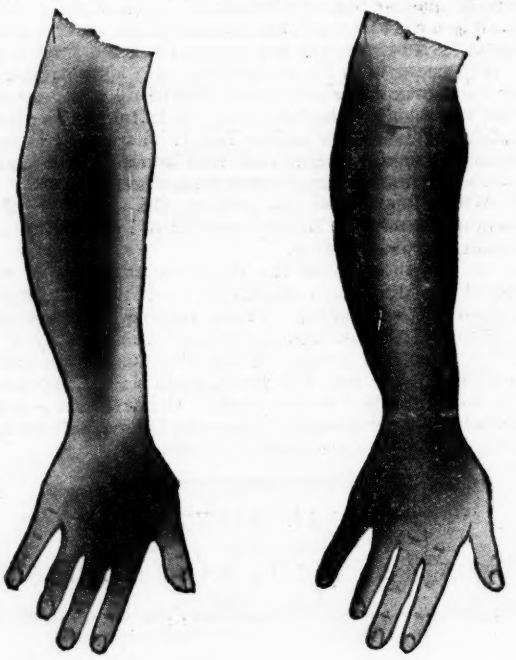

Fig. 3. Fig. 4.

Back of hand and forearm.

ulnar nerve behind the internal condyle (*a*) and musculo-cutaneous nerve at the outer side of the biceps tendon (*b*). The introduction of the fluid around the ulnar nerve presents little difficulty. The nerve is easily felt lying behind the internal condyle. The nerve should be defined with the fingers, the forearm being extended. Then, keeping the finger on the nerve, flexing the forearm, the needle is introduced just external to the bony point of the condyle and passed outwards, keeping the point close to the bone. The needle will now lie between the bone and the nerve; 2 or 3 c.cm. of the fluid are injected, the needle is then withdrawn a little, the point passed superficial to the nerve, and 2 to 3 c.cm. more introduced. After withdrawing the needle the fluid is to be gently massaged into the nerve with the fingers.

To inject around the musculo-cutaneous nerve, pick up the skin and superficial fascia between the thumb and first finger just external to the tendon of the biceps, thus gauging the thickness of the superficial fatty layer, pass the needle down to the deep fascia, and make the injection upon the surface of this layer.

Anterior Aspect of Arm and Forearm.

Fig. 2 illustrates anaesthesia produced by blocking the internal cutaneous nerve at the elbow and the median at the wrist.

To introduce the fluid around the internal cutaneous nerve the injection should be made about ¾ in. internal to the tendon of the biceps upon the surface of the deep fascia. As the internal cutaneous nerve is at this point in two portions, the injection must be planned to cover a correspondingly wide area.

The median nerve at the wrist is easily found; it lies directly behind the tendon of the palmaris longus muscle. If this muscle is absent, the injection should be made ½ in. internal to the tendon of the flexor carpi radialis muscle.

Back of Forearm and Hand.

Fig. 3 illustrates the anaesthesia produced by blocking the musculo-spiral nerve in the groove on the outer side of the humerus.

In order to find the musculo-spiral nerve, take a point midway between the angle of the acromion and the olecranon process. This is the point at which the nerve crosses behind the humerus, and in nearly every case it can be palpated just below this level as it winds downwards and forwards.

The position of the nerve being thus defined, the needle is passed down to it till the point touches the outer side of the humerus. A liberal injection is made, which passes upwards and downwards in the fascial compartment which contains the nerve in this part of its course.

Fig. 4 illustrates anaesthesia produced by blocking the musculo-cutaneous, internal cutaneous, and ulnar nerves.

Anterior Aspect of Trunk.

Fig. 5 illustrates anaesthesia produced by injection of intercostal nerves. On the left side the second, fifth, and eighth are shown. On the right side the nerves have been blocked, from the third to the tenth inclusive.

In each case the injection has been made just in front of the angle of the rib, consequently each intercostal nerve has been blocked well behind the origin of its lateral cutaneous branch.

The intercostal nerves, lying as they do behind the

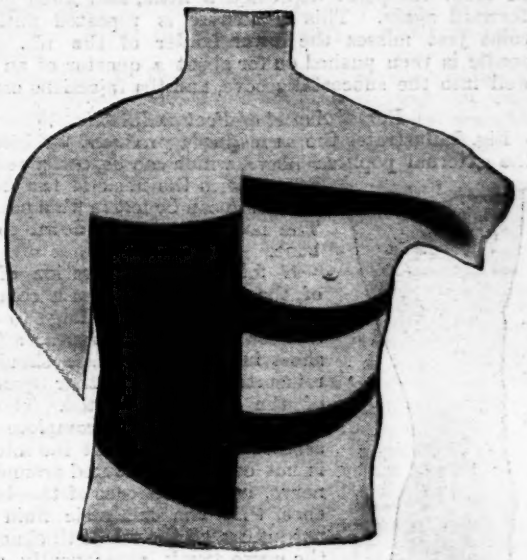

Fig. 5.

corresponding ribs in the subcostal groove, can be reached with ease and certainty, the ribs forming an excellent bony landmark to their position. The patient should lie on his back with the arm raised. The rib covering

Site of Operation.	No. of Cases.	Nature of Cases.	Operations.	Remarks.	Nerves Injected.
HAND	150	3 Injury 45 Cellulitis 102 Whitlows	Incision Amputation of digits Removal of necrosed bone	Anaesthesia complete	Median. Musculo-spiral. Ulnar.
WRIST AND FOREARM ...	17	4 Cellulitis 9 Ganglia 1 Amputation 2 Removal of subcutaneous tumour 1 Excision of head of radius	Incision Removal by dissection Removal by dissection	Anaesthesia complete 3 Cases completed under general anaesthesia Anaesthesia complete Anaesthesia complete Some sensation in the bone	Median. Ulnar. Musculo-spiral. Musculo-cutaneous. Internal cutaneous.
ARM...	1	Old osteomyelitis	Removal of sequestrum	Complete anaesthesia of whole of arm	Brachial plexus descending clavicular.
THORAX	43	12 Adenomata of breast 2 Abscess of breast 3 Pericarditis 6 Empyemata 2 Abscess of lung 14 ? Intrathoracic conditions 1 Tuberculous rib 1 Tuberculous sternum 2 Bronchiectasis	Removal by dissection Incision drainage Removal of rib cartilage, drainage Removal of ribs, drainage Incision, drainage Puncture, incision, removal of rib Removal of rib Removal of diseased bone and sequestra from anterior and posterior surfaces of sternum Removal of ribs	Some sensation in 2 cases Complete anaesthesia " " " " " " " " " " " " " "	Intercostals.
ABDOMEN	6	3 Oesophageal obstruction 1 Acute cholecystitis 1 Cholelithiasis 2 Intestinal obstruction	Gastrostomy Removal of stones, drainage Removal of gall stones from gall bladder and common duct Colotomy; Paul's tube inserted into ileum	Complete anaesthesia, no pain when stomach was drawn out Complete anaesthesia Peritoneum sensitive Complete anaesthesia	Intercostals. Intercostals. Intercostals. Eighth and twelfth dorsal, ileo-hypogastric, ileo-inguinal.
FOOT...	37	1 Sarcoma 3 Cellulitis 8 Hallux valgus 6 Injury 9 Hammer toe 10 Other conditions	Syme's amputation Incision Excision of head of metatarsal Excision of head of first phalanx; amputation	Complete anaesthesia " " " " " " " "	Internal popliteal. External popliteal. Internal saphenous. External saphenous. Posterior tibial.

General anaesthesia was used to complete the operation in 7 of the above cases.

Three of these were ganglia at the back of the wrists in fat patients. These occurred early in the series, and in each case apparently a few fibres of the musculo-spiral nerve had escaped.

In another case, an excision of the head of the radius, the soft tissues were quite anaesthetic, but the bone remained sensitive. Here again a few fibres of the musculo-spiral remained sensitive.

Two cases of adenomata of the breast had to be completed under general anaesthesia. Although the intercostal nerves corresponding to the position of the tumours were blocked some sensation remained, due apparently to an unusually low distribution of the descending branches of the cervical plexus.

the required nerve is defined, and the needle introduced through the skin a little below the level of this rib, and passed obliquely upwards until it touches the lower border. The needle is then withdrawn a fraction of an inch, the point depressed a little, and then pushed forward again. This manœuvre is repeated until the point just misses the lower border of the rib. The needle is then pushed on for about a quarter of an inch well into the subcostal groove, and the injections made.

Dorsal Aspect of Foot and Ankle.

Fig. 6 illustrates the anaesthesia produced by blocking the external poplitea nerve, which can be easily reached as it crosses the neck of the fibula; the nerve can be felt in this position. The needle is passed down to the bone.

Fig. 6.

If following an injection of any of the foregoing nerves a complete anaesthesia corresponding to the distribution does not appear after a short interval, the needle should be reinserted, and a further quantity of the solution injected. The explanation of an incomplete anaesthesia is either that the solution is not evenly distributed around the nerve, or, in the case of the larger ones, that the analgesic fluid has not infiltrated the whole thickness of the nerve trunk, consequently some few fibres have escaped.

In the table on page 1703 is given a summary of the cases upon which this method has been used. These cases show that a very considerable variety of surgical procedures can be carried out under this form of anaesthesia.

The choice of the kind of anaesthetic to be used for any particular case must depend upon the special circumstances of that case. It is obvious that no such thing as a routine anaesthetic or combination of anæsthetics can be employed with the best result, since very varying conditions, both local and general, are present in different patients. Therefore, although it is not intended to suggest that regional anaesthesia should always be used where possible, it may safely be urged that this form of anaesthesia is very valuable in those not infrequent cases in which general anaesthesia is from some cause or another contraindicated.

The surgical treatment of severe whitlows, which forms so large a part of the work in hospital out-patients' rooms, is a very good example of the usefulness and convenience of regional anaesthesia. A long anaesthesia is required in order that the parts may be clearly defined and the exact limits of the suppuration made out.

Out-patients are frequently improperly prepared for a general anaesthetic, and a journey through the streets, even some hours after recovery from ether, cannot be regarded as desirable. The length of anaesthesia given by novocain is far beyond anything that is likely to be required for surgery of this description, and, of course, there is the great advantage of the absence of after-effects.

The dangers of operations upon the thorax are chiefly connected with the general anaesthetics employed, and it is in the surgery of this region that regional anaesthesia is so valuable. These patients are frequently very ill indeed, suffering from embarrassed respiration and circulation, especially in such conditions as large empyemata, abscess of the lung, and pyopericardium.

Further, there is that increasing class of case in which the operation of decostalization is undertaken for the relief of chronic empyemata, bronchiectasis, etc. Here the post-operative dangers of general anaesthesia are serious.

It is well known that one of the chief causes of pneumonia following operations is reflex rigidity of the chest and consequently inefficient expansion of lungs already to some extent damaged by a pungent vapour and more or less filled with anaesthetic sodden mucus. It is therefore clearly a great advantage in all cases involving a large wound of the chest wall to use a form of anaesthesia causing no pulmonary irritation.

Consequently it is in the surgery of the thorax that regional anaesthesia is most useful, and it is fortunately most easily and successfully carried out in this part of the body. Provided that the injection into the intercostal nerve is made well behind its lateral cutaneous branch, the whole thickness of the lateral wall of the thorax from the mid-line in front to within a few inches of the mid-line behind becomes anaesthetic. So that with equal facility a rib may be removed, the pericardium may be drained, or a tuberculous sternum treated.

Although the limits of this anaesthesia are really only defined by anatomy, yet it is quite obvious that there must be great objections to any form of local anaesthesia however perfect for any major operation upon the head, face, or jaws, and it is quite certain that few patients would face such an ordeal.

Finally, the uses and limitations of this method of anaesthesia may be very shortly summed up in two words—namely, anatomy and novocain. I should like to take this opportunity of expressing my thanks to the surgical staff of University College Hospital for the many facilities I have been afforded for the practice of this form of anaesthesia.

CASE OF STOKES-ADAMS DISEASE.

BY

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The points of interest in the following case appear to me to be the occurrence of the disease in a woman, and the combination of all types of attack, namely, syncopal, epileptiform, and apoplectiform, in the one patient.

Mrs. A., aged 72, had enjoyed perfect health during most of her life—so much so, that she accomplished a 20-mile walk at the age of 70.

Seven years ago she consulted my predecessor for slight attacks of vertigo, which were put down to "liver." Off and on since then, whilst walking, she has had to stop and bend down to recover from what she called a "mazed" feeling.

In September, 1909, she was seen for attacks of giddiness. In these she had a distinct tendency to fall, and instinctively clutched at something for support, though no actual fall took place. About this time she noticed that she was short of breath on ascending stairs, etc. She was found to have a consistently slow pulse, between 30 and 40.

I saw her for the first time on July 4th, 1910. She was simply complaining of slight malaise. The heart was normal in size, and remained so subsequently. The first sound was rather weak, but no murmur was present. The pulse-rate was 44.

When seen on July 22nd she had had several "dizzy" attacks. Her pulse varied whilst I sat talking to her, being 34 at one time and 68 at another. Of this she was quite unconscious. She had a slight systolic murmur at the base, and her blood pressure equalled 225 mm. Hg.

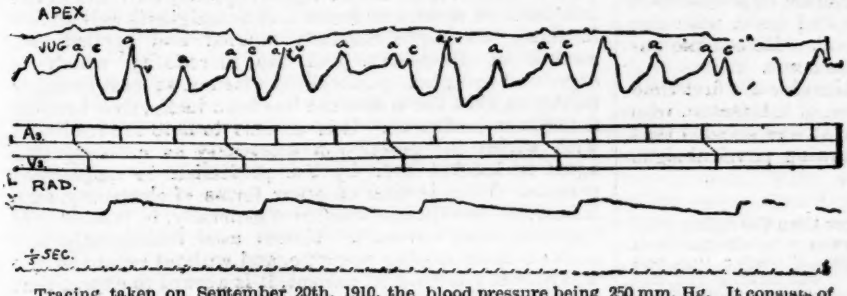
She was put on arsenic and potassium iodide, and for a few days felt much better.

On August 1st she walked some distance to a railway station, and on arriving there lost consciousness without any warning and fell heavily on the platform. She consulted me an hour later, when the only noticeable thing, apart from some natural nervousness and shock, was a slow, irregular pulse varying between 36 and 40. She refused to go to bed, and next day again fell whilst talking to a groom in her stables. She was seen at midday, and whilst sitting in her chair suddenly said, "I am off!" turned pale, showed some general facial twitching, and lost consciousness for a second or two. There was a little mental confusion for a minute or so, and then she resumed conversation quite in a normal manner. A diagnosis of Stokes-Adams disease was made, and she was sent to bed.

On August 3rd both the introduction of a nurse and the occasion of my visit signalized attacks similar to that just described, and from this time onwards she had frequent attacks—one or more during the day. They were of varying severity, and in many of them she certainly did not lose consciousness. She merely exclaimed, "Ah!"

some facial twitching ensued, and in a minute or so she would be all right once more. Formerly she had complained of a "singing in the ears." This vanished, and her trouble was always a "hot feeling at the top of the head." Marked irregularity of the pulse was noted before several of these minor attacks, and the jugular pulse was often found to be exactly double that of the radial. The blood pressure fell to 195 mm. Hg. She was treated with strychnine and belladonna in small doses, and also by liq. trinitrin in 1-minim doses three times a day. This was gradually raised to 3 minims.

She continued in this condition till September 20th, when Sir William Osler and Dr. Gibson saw her in consultation. The heart was found normal, save for a faint basal systolic murmur. The blood pressure was 250 mm. Hg, and the cardiographic tracings are here reproduced.



Tracing taken on September 20th, 1910, the blood pressure being 250 mm. Hg. It consists of apex, jugular, and radial pulsations with a time marker of one-fifth second. The interpolated diagram between radial and jugular pulsations indicates the events in the auricle (As) and the ventricle (Vs). It shows that only every third auricular contraction is followed by a ventricular; the rhythm is, therefore, of the 3:1 type, and the block is incomplete.

On September 22nd she had an attack in which she was unconscious for about a minute. The pulse fell to 27, and was very irregular both in time and strength. General spasmodic twitching of the facial muscles occurred at intervals during the day. The blood pressure was 230 mm. Hg.

September 26th. This morning she had several minor attacks with feelings of nausea and faintness. In the afternoon vomited after a glass of Apenta water; several other attacks of vomiting accompanied by an irregular pulse occurred during the afternoon. At 7.10 p.m. she vomited and became suddenly unconscious. The nurse said she went red for a few minutes, then pale. There was a general tremor for some seconds; then stertorous breathing began. The nurse gave her about 10 amyl nitrite capsules. When seen at 7.30 p.m. she was pale, clammy, unconscious. Pulse 144 and weak. Eyes turned up, and heavy stertorous breathing present. She was given $\frac{1}{30}$ grain strych. hypod., 1 grain also of Nativelle's digitaline, and ʒij of Hoffman's anodyne. There seemed to be an immediate response: the breathing became easier and pulse stronger. After a little the eyes became more normal, colour began to return to the face, the breathing was less stertorous, and marked general facial twitching ensued. For a few seconds the pulse became quite slow (40-50), accompanied by marked improvement in colour of face. Then back went the pulse to 140 again. Next ensued much restlessness, attempts to rise in bed, and she appeared to be going to vomit, but did not do so. Then the pulse began to beat in groups of 2, and subsequently became regular and slow. The patient quite gradually regained consciousness, made signs for a drink, confused speech returned to her, and then normal speech came back about three quarters of an hour after the onset of the attack.

September 27th. She rambled a little during the night, and for the first time her stools were offensive. In the temporary absence of the nurse she got out of bed at 5.45 a.m. and had another apoplectiform attack; this time everything was normal again in fifteen minutes, though she passed through the stages of engorgement, unconsciousness, stertorous breathing, etc., as before.

September 28th. Very weak. Pulse 40, regular. Blood pressure 140 mm.

October 4th. Very feeble during last week. Refused all food, save milk and champagne. Heart sounds weak, with a diastolic murmur. Blood pressure 150. Sleeping badly and feeling sick. Now and then vomiting a little; she has had no sign of any attack. Given pituitary extract and ernutine with no effect on blood pressure.

October 5th. Pain in right intercostal muscles and some gouty swelling of left foot came on, and the next day she was much better in herself, but very irritable. Blood pressure 180 mm.

October 12th. All pain had gone after small doses of colchicum. Blood pressure 195 mm. Pulse 56, and irregular.

October 15th. In the morning she was thought to be very much better, and she had not had an attack for over a fortnight. Being a strong-minded person, she insisted in the afternoon on getting up to stool. She passed a small amount, then fell over and died.

The following notes of the *post-mortem* examination were kindly furnished by Dr. Gibson:

Post-mortem Examination.

The heart is larger than normal, and weighs 365 grams. The epicardial fat is moderate in amount. The apex of heart is formed by the left ventricle. The valves are normal and rather less sclerosed than is usually seen at this age. The right auricle and right ventricle are normal in size. Left auricle is normal. The cavity of left ventricle is slightly larger than normal. The columnae carneae are flattened. The muscular fibre of heart is everywhere pale and brownish. There is no sclerosis of endocardium of either right or left sides, either local or in relation with valves. The wall of the right ventricle and to some extent the left shows fatty infiltration from the epicardial fat. There is some hypertrophy of muscle of left auricle. The muscle of right ventricle is slightly hypertrophied, and that of left ventricle definitely so. There is no evidence of any gross lesion in the parts neighbouring upon His's bundle. The anterior coronary artery is definitely thickened and twisted near its opening into the aorta. This thickening is general with a few areas of fatty degeneration, but no calcification. The posterior coronary artery is similarly affected.

The kidneys show early thickening of the arteries and the irregular depressions on the surface of the cortex characteristic of the arterio-sclerotic kidney, but in a very mild degree.

Microscopic Examination.

The section taken along the long axis of heart through His's bundle shows very marked fatty infiltration of the bundle, but a fair number of fibres are still present. The artery accompanying the bundle shows no marked changes. There is increased formation of fibrous tissue in neighbourhood of and extending into bundle; also very markedly in the interventricular septum, where also there is very considerable fatty infiltration. The muscular fibres of the ventricle are hypertrophied, and show extreme brown atrophy, but the striation is good. There is fatty infiltration and some increased fibrosis of the auricles and hypertrophy of the muscle cells. The section taken at right angles to the direction of main trunk of His's bundle shows a lessening of its total bulk by fatty infiltration. The fibres that are present show their striation and stain normally. The artery and vein accompanying the bundle are large, and the former shows a moderate degree of arterio-sclerosis.

NERVOUS AND MENTAL SYMPTOMS IN A CASE OF ADDISON'S DISEASE.

BY

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INTERNAL secretion in its relation to nervous and mental diseases has not, until quite recently, been considered seriously, or received the attention it deserves by those who are investigating the pathology of mental disorders. In view of the above fact, I think the publication of the following case will be of considerable interest to those who are researching, or who are contemplating research, in this branch of pathology. The case in question is one which affords valuable data of psychiatrical and surgical interest.

The patient, H. S. S., was a male aged 49, manufacturer's agent. His family history was very good, and with the exception of gonorrhoea his previous history gave no evidence of any mental or physical illness. Early in October, 1911, he complained of an inability to do his work, and his friends noticed that he was depressed and restless.

These symptoms gradually increased, and the patient realized that he was suffering from some nervous ailment.

Tremors of the hands, lips, and tongue now developed, and he became so restless and nervous that medical advice was sought. Neurasthenia was diagnosed, and the treatment adopted was the usual one of complete change and rest in bed with tonics and nourishing food. A favourable prognosis was given.

The patient, who was now in a country nursing home, developed the delusion that his face was altering in appearance. He became suspicious, more depressed, and steadily lost flesh. It is stated that no alteration in the patient's complexion was noticeable at this stage. The restlessness and tremors increased and the patient's memory and judgement became impaired. He now developed the delusion that his penis had disappeared. It is interesting to note that simultaneously with this delusion he persistently experienced hallucinations of smell and taste, with the result that he commenced to refuse food. He became unmanageable and was removed from the home.

On January 1st, 1912, I saw the patient for the first time in consultation with Dr. Dewar Forbes, of Edmonton, who had just taken charge of the case, and it was decided that certification was necessary. The following physical signs were present:

Inequality of pupils (the left being larger than the right), with sluggish reaction to light. The knee-jerks were exaggerated, and the plantar reflex was flexor. Tremors of tongue, lips, and hands were marked. Cutaneous sensation was unimpaired, but there was a distinct loss of muscular tone in all the limbs. His speech was slow and slurred, and his handwriting irregular.

It was suggested at this stage that the case might be one of incipient general paralysis, and an unfavourable prognosis was given.

On the same day he was admitted to Bethlem Royal Hospital. He now complained of severe headache, and was restless, confused and very agitated. The pulse-rate increased to over 100, and was of low tension. Severe constipation was present, and caused anxiety for some time. Owing to the hallucinations of taste and smell the patient persistently refused food, and looked upon those around him with suspicion and a certain amount of fear. He was fed by tube, but fortunately this procedure was not necessary for long, as the patient began voluntarily to take food.

Nausea and occasional vomiting developed, and as numerous dental stumps were present they were extracted on the presumption that they might be the cause of oral and gastric sepsis. He, however, continued to lose weight, suffered from insomnia, and was cachectic (non-pigmented).

On April 30th the patient, who had now been in the hospital for four months, complained of abdominal pain and diarrhoea, and it was found that melaena was present. There was general tenderness over the abdomen and acute pain in the region of the hepatic flexure, with marked rigidity of the upper part of the right rectus muscle, suggesting some local peritonitis. Nothing in the nature of a definite tumour could be felt, but in view of the fact that the patient, in addition to the latter signs and symptoms, had suffered for some time with cachexia, loss of weight, and constipation, it was thought that a malignant growth might be present in the hepatic flexure of the colon. After consultation with a surgeon it was decided to postpone operation.

The pulse continued to be rapid (120 to 140) and of low tension, and the temperature rose occasionally to 100° F. for a few hours. The knee jerks were now almost absent. Asthenia, diarrhoea, and cachexia were very marked, and when going to stool the patient had frequent attacks of vertigo and syncope. His mental condition was, at this stage, one of agitation, restlessness, and apprehension. Memory, perception, and orientation were impaired, and speech was slurred.

These signs and symptoms gradually became worse, and the patient died on May 8th. On *post-mortem* examination no signs of general paralysis or other brain disease could be found, and, with the exception of a small adhesion at the brim of the pelvis, the whole intestinal tract was perfectly normal. So far this left the diagnosis in a state of obscurity, but on examining the adrenal glands they were found to be much enlarged, somewhat sclerosed, and on section macroscopically the right one showed a large haemorrhage, with numerous others of presumably earlier date. On microscopical examination the haemorrhages and sclerosis were confirmed, but no evidence was forthcoming to show the presence of tubercle bacilli.

On comparing the clinical data with the *post-mortem* findings a ready diagnosis could be made, and the cause of the death was certified as being due to Addison's disease.

HIGH-FREQUENCY CURRENTS IN TRIGEMINAL NEURALGIA.

By W. F. SOMERVILLE, M.D.Glas.,
MEDICAL ELECTRICIAN TO THE WESTERN INFIRMARY, GLASGOW.

THE beneficial influence of high-frequency currents in the treatment of various neuroses and neuralgias is well known to those who have carefully studied and applied this method of treatment, and the incredulity which is expressed in certain quarters only means, at least in many instances, that the treatment has been ineffective because it has been inefficient. It is curious to note the readiness with which the practice of electricity as a therapeutic agent is handed over by the profession to unqualified persons. What is true of other forms of electricity, and, indeed, of therapeutic measures generally, is true also of high-frequency currents. Unless used intelligently and not as a mere routine measure, and without regard to the wants of the individual patient, it is absurd to expect that good results will follow.

An illustration of the value of high-frequency currents when perseveringly and appropriately used, even in severe trigeminal neuralgia of long standing, may be found in the following record, and it is noteworthy that some form of electrical method, applied apart from skilled supervision, had previously failed to produce improvement. The lesson is obvious—that methods of treatment can only be judged fairly when they are put into operation under proper conditions; and, again, that both in their own interests and in those of their patients, medical practitioners would be well advised to retain in their own hands the use of electrical and other therapeutic measures, rather than to delegate those measures to those who, acting without knowledge, must necessarily act without judgement.

A widow lady, aged 60 years, in good circumstances, was sent to me in November, 1911, by Dr. John Love, of Glasgow, because of severe trigeminal neuralgia of eight years' duration on the right side. The attacks were frequent and severe, and even in the intervals between them, the patient lived under the constant fear of their return. All this had necessarily produced considerable prejudice to the general health. She had lately been at one of the English spas, and had been treated by ionization by a bath attendant, but without benefit. I began high-frequency treatment on November 2nd, 1911, and continued daily until Christmas, with very decided relief of the pain. During the break of the Christmas holidays the pain returned. Treatment was accordingly renewed, and was continued with one or two intermissions until June, 1912. By that time the attacks of neuralgia had completely disappeared, and the patient's appearance and general sense of well-being showed a corresponding measure of improvement. She reported herself in August 1912, when she had been absolutely free from pain for nine weeks. I saw her again at the commencement of October, when she informed me that, with the exception of a comparatively slight and transient attack she had suffered no pain, and that "to live was a pleasure." I met the lady in the street on November 27th, when she told me she was still free from neuralgic pain.

This is, of course, an impressive experience, but it is far from being exceptional. I have had many cases of neuralgia of all degrees of severity in which relief and often complete cure have followed the use of high-frequency currents. The method is no doubt one which causes the medical attendant a certain degree of trouble, but I am sure that if the profession would give it personal attention, they would find it both valuable and reliable.

DR. G. V. WORTHINGTON writes from Luxor to deprecate the apprehensions which are stated to have induced some intending visitors to Egypt this winter to cancel their arrangements. The Turko-Balkan war has not, he says, created unrest among the Egyptians, and they will certainly not do anything to endanger the harvest they derive from winter visitors. A similar apprehension which was felt, he says, in England last year on account of the war in Tripoli was soon found to be groundless. Although fighting then took place on the borders of Egypt it had no disturbing influence whatever.

Memoranda:

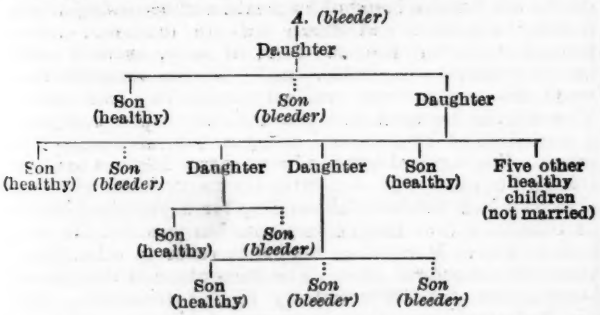
MEDICAL, SURGICAL, OBSTETRICAL.

HAEMOPHILIAC BLEEDING TREATED BY GALVANIC NEEDLE.

THE following case may be of interest, as I have not seen this form of treatment recommended in any textbook.

An infant of 2 years was brought to me a few days ago. He was a haemophiliac, and had got a trivial scratch on his tongue from a tooth. The lesion was on the extreme right margin, fairly far back. The child's pulse was almost imperceptible, and he was vomiting large quantities of swallowed blood. The bleeding had gone on continuously for twenty hours when I saw him. I applied liquor ferri perchloridi without any result; owing to the vomiting I could get no drugs administered internally, as everything was vomited immediately.

Owing to the position of the lesion, pressure was very difficult to apply. Accordingly, as a last resort, I decided to try needling, in the same manner as for a naevus. I did not like to risk giving an anaesthetic owing to the child's very collapsed state. I gagged open the mouth and caught the tongue in a large broad pair of tongue forceps and drew it forward. I then placed one needle in the centre of the bleeding area and the other about ⅛ in. distant. On passing a 5-milliampère galvanic current, though, the bleeding caused by the insertion of the needles instantly ceased, and in two minutes there was no trace of haemorrhage, the surrounding area being white and somewhat swollen. One application only was necessary, as there has been no return of haemorrhage. The child's condition rapidly improved, the operation appearing to cause no shock. I give the child's family tree, as it seems of interest, inasmuch as it is the second sons of the female stock who are the bleeders; as far as I can learn, all the eldest sons were healthy. I am indebted to Dr. Gilbertson for permission to try my treatment in the case.



Sunderland. W. BRUCE, M.B., Ch.B.Edin.

A SHRIMP IN THE BRONCHUS.

THE following case may be of sufficient interest to merit publication.

On October 9th a child aged 8½ months was brought to my surgery. He had seized and bolted a shrimp. The immediate symptoms were choking and the issue of blood-stained fluid from the mouth. When first seen he was breathing with some difficulty, but there was no urgent dyspnoea, the symptoms resembling those of laryngeal obstruction. I explored the pharynx but could find nothing. Emesis was produced by divided doses of vinum ipecac. It was close on an hour before vomiting took place, and during this time all respiratory difficulty passed away. When vomiting did occur portions only of the shrimp were accounted for. As all urgent symptoms had passed away the child was sent home, and was directed to be placed in a steam tent. Next day I found the child apparently quite well, but on examining the chest found marked diminution of breath sounds all over the right side of the chest. Food was being taken well, and beyond occasional attacks of discomfort the child seemed quite well. There was no cough of any moment. I prescribed an expectorant mixture. On the following morning I learnt that about 10 a.m., after a violent attack of coughing, a large portion of the shrimp had been expectorated. The largest piece measured about ½ by ¼ in., and consisted of the head end and feelers, minus the carapace. The breath sounds were now normal.

It seems strange that the head end of a shrimp with the "legs" on, a highly irritable form of foreign body, should remain in a bronchus for some thirty-six hours without causing more serious symptoms.

Gillingham, Kent. C. COURTENAY LORD.

ARNICA DERMATITIS.

WHITLA, in the sixth edition of his *Materia Medica*, says of arnica: "Externally applied preparations of the root and flowers cause irritation of the skin, which may take on serious or even fatal inflammatory action extending to distant parts." A short time ago I had a case illustrating the truth of this statement which, in view of the popular idea of the efficacy of this remedy in bruises and sprains, may be of interest.

The patient, a young married woman, came to me with a history of having fallen a few days previously whilst going downstairs. A sympathetic friend advised an application of tincture of arnica to the bruised parts, and the treatment had evidently been carried out with great thoroughness. When seen by me the lumbar and sacral regions were covered with a red, angry, and extremely irritable erythematous rash. One side of the face was puffed, and there was a rash there in appearance very like urticaria. There was a similar rash on one forearm. I was assured that none of the arnica had been applied to these latter two parts. The rash and irritation subsided in a few days under combined treatment by saline purges and a sedative ointment.

I thought the case of interest because, though arnica has been expunged from the *Pharmacopoeia* as an uncertain and often dangerous remedy, it seems still to linger in the minds of some members of the public as a specific in certain forms of injury.

London, N. F. R. PROCTOR-SIMS, M.R.C.S., L.R.C.P.

SCARLATINAL MEASLES.

DR. MORGAN'S remarks on scarlatinal measles (JOURNAL, November 30th, p. 1547) prompt me to send the following notes:

On June 17th, 1912, I visited in succession, and for the first time, three houses practically next door to one another. In the first there were two cases of measles, and in the second one of scarlet fever. In the third there were two children ill in the same bed. The boy had been quite well until the previous evening, when he had complained of general malaise. I found him with a flushed face, a sore throat, and a well marked *scarlatinal* rash on his body. The girl had been out of sorts for a fortnight, but had only developed a rash on that day. She exhibited a typical *measles* rash with blotchy face, injected conjunctivae, and so on. By June 19th the rash had nearly disappeared on the boy and quite on his sister.

On the morning of June 20th the boy still had a sore throat, and one of the left cervical glands was much enlarged. The girl was playing about the room. In the evening, however, she was sick. Next day she had a sore throat and a slight but quite distinct scarlatinal rash, most marked on the chest.

By the morning of June 24th the boy was feeling very much better, and was peeling slightly on the chest. He was not so well in the evening. The next day his face began to assume a blotchy appearance, and by June 27th this was well marked. The body also showed a definite measles rash, though not a thick one.

The subsequent progress of both patients, and also of the patients in the other houses was uneventful.

I do not recollect seeing any other cases in which these two diseases have been so closely associated without any sacrifice of their individuality. But the way in which the symptoms of one specific fever will invade the territory definitely mapped out by the textbooks for another is often as puzzling as it is interesting. In the two cases I have described both diseases must for a certain time have been present together. There is no obvious reason why a slight alteration in the date of the primary infection in one of them should not have led in that patient to the appearance of both rashes on the same day. Possibly, but for the fact that the other case would have made things clear,

this might then have been described, quite naturally, as scarlatinal measles, instead of scarlatina and measles. I do not mean to suggest that the former term may not sometimes be an appropriate one.

JAMES F. BLACKETT, M.D.Lond.
Audley, Newcastle, Staffs.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

ROYAL NAVAL HOSPITAL, PLYMOUTH.

NEEDLE IN APPENDIX.

(By W. EAMES, Deputy Surgeon-General, R.N.)

A BOY, aged 15, was admitted on June 21st, with history of abdominal pain of an aching character, of six days' duration. It was referred to the right side of the abdomen between the umbilicus and Poupart's ligament. There was marked tenderness in this region, with rigidity of the right rectus muscle and some dullness on percussion. The patient felt well generally; the bowels acted normally, the tongue was fairly clean; the abdomen moved quite well with respiration; temperature 101.4°, pulse 80.

On the following morning, under an anaesthetic, I opened the abdomen through McBurney's point, and found marked adhesions between the caecum and abdominal wall, rendering the former almost immovable;

firmly attached was a large indurated tubular mass, evidently the appendix. After all adhesions had been carefully divided, the caecum, together with what proved to be the enlarged and indurated appendix, was brought out of the abdominal opening. An inch of the distal end of the appendix was apparently normal, but at its junction with the enlarged indurated portion remaining a black spot was observed, and was found to be the point of a needle, which occupied the whole of the distal part of the appendix, which was apparently healthy. The whole appendix was removed with the needle *in situ*, which is to be seen in the accompanying photograph, taken by E. Matthews, S.B.A. The whole appendix was 3½ in. long, and in the thickest portion was ¾ in. in diameter.

The patient had no knowledge of having swallowed a needle, which evidently entered the intestinal tract in a food mass. The patient's post-operative progress was quite satisfactory.

THE fourth congress of the German Urological Society will be held at Berlin, under the presidency of Professor L. Casper, on September 29th and 30th and October 1st, 1913. The subjects proposed for discussion are serology and vaccine-therapy in urology, and vesical calculus.

A RUSSIAN physician, Dr. Hippolit A. Deminsky, has recently died of pulmonary plague caused by infection in the course of an experimental research. A woman student of medicine of Moscow, H. M. Krasilnikowa, has also fallen a victim to pulmonary plague contracted in the discharge of her duty.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

Tuesday, December 10th, 1912.

Mr. G. H. MAKINS, President, in the Chair.

Filigree Implantation.

MR. LAWRIE MCGAVIN, in a paper on the results of filigree implantation in the radical cure of hernia, said that he had operated on 314 herniae exclusive of femoral—263 inguinal, 51 umbilical or ventral. In 106 of the inguinal and 40 of the umbilico-ventral filigrees were used, 20 being double inguinal. The total wire filigree implantations numbered 166. Of the umbilico-ventral 36 and of the inguinal 6 occurred in women, mostly obese. The oldest patient was 72. A filigree was used for one or other of the following reasons: Hernia of large size, long standing, age, atrophy from truss pressure, a wide hernial gap, or the necessity for doing very heavy work. There was recurrence in 2 cases, one from sepsis, the other from the filigree having been placed on the extraperitoneal fat. Both had been operated on since without recurrence. Recurrence might, but rarely did, follow sepsis; more often it was due to faulty technique. Filigrees gave rise to no untoward symptoms, and after a short time they could only be removed *en bloc*. There was a slight increase in the danger of sepsis. Seven cases suppurated. After suppuration the filigrees became more firmly embedded; they should not be removed. Displaced wires in a sinus could be removed without disturbing the filigree. Herniae after appendicular abscess were difficult to cover over with muscle, and the appendix should always be removed before implantation. The separation of adhesions and reduction were the dangers in large herniae. His mortality for the ventro-abdominal was 10 per cent., for the inguinal 0.9 per cent. The increased mortality was due to the herniae being of huge size and occurring in less healthy subjects, and there was an increased interference with the tissues. Few, if any, herniae could be considered incurable, and filigree implantation was the only true radical cure in bad cases. The filigree he used was one with the wires separated ½ in. and fixed by a central and two lateral longitudinal wires. For inguinal herniae he used two filigrees to allow the cord to pass. MR. JONATHAN HUTCHINSON thought that the cases had not been followed up for a sufficient length of time, and that filigree implantation was not the only radical cure. Many cases tended to recur in other situations after a radical cure. The percentage of deaths and suppuration was increased by filigree insertion. Still Mr. McGavin's paper would encourage him to use filigree more often. MR. STANLEY BOYD thought that the paper was a fair proof of the advantage of the filigree. He had lately used Kodak films instead of filigree. MR. BARKER agreed as to the use of the filigree except for inguinal herniae, which he thought could always be controlled by a Bassini; if used the filigree could be bifurcated so that two need not be used. Herniae occurred in other situations after radical cure as the patients exerted themselves once more. In some ventral herniae there was no other method of cure; filigrees inhibited the growth of organisms, and the scar after suppuration was stronger than usual. MR. SIDNEY BOYD thought that filigrees were also useful in direct inguinal herniae, and that the increased risk of sepsis was of not much importance. MR. MCADAM ECCLES said that the filigree was useful in the umbilico-ventral, but rarely necessary for the inguinal. The difficulty in the large herniae was the reduction of the contents, and he hoped that in future they would not be allowed to get so big. Filigree was of great value when much tissue had to be removed, and he had placed the filigree on the intestine itself. MR. JOCELYN SWAN said that he had obtained good results from the use of the filigree in ventral herniae; four years had passed without a recurrence. He had found it especially useful in cases where portions of the abdominal wall had had to be removed.

MR. MCGAVIN, in reply, said that his list did not include his later cases; in the earlier cases eight years had elapsed without a recurrence. Some 24 of the cases had

been repeatedly operated on previously without success. He considered wire filigree the only radical cure in these cases, because if the filigree was properly placed and the wound did not suppurate the condition would never recur.

CLINICAL SECTION.

AT a meeting on December 13th, Sir WILLIAM OSLER, Bart., President, in the chair, the following were among the exhibits:—Dr. A. M. GOSSAGE; A case of *Obstruction of the superior vena cava* in a man, aged 74, who had had syphilis in his youth. The obstruction was probably due to cicatricial contraction after a gumma in the upper part of the thorax. Mr. RALPH THOMPSON: Two cases of *Prostatic calculi*. In the first case operation had been performed by the perineal route, and one large and three small faceted pieces of stone, chiefly phosphatic, removed from the prostate. The patient made a good recovery. In the second case a skiagram revealed three prostatic calculi lying behind the pubes. Death occurred later from aortic aneurysm, and an examination *post mortem* of the prostate was obtainable. Dr. F. PARKES WEBER: Family *Cerebellar ataxia* in two half-sisters, aged 15 and 4 respectively. In both cases the actual ataxia was very slight. In the second case spasticity of the gait and Babinski's sign pointed to the involvement of the cerebral motor cortex also. Also *Bilateral cervical ribs*, with atrophy of the hand muscles in two cases, girls aged 21 and 16½ respectively. Symptoms began about the time of puberty in both. In the second case the right seventh rib had been removed, an operation which had relieved the symptoms and improved power. In the first the right hand only was affected, and in the second the right hand was affected much more than the left. Mr. PHILIP TURNER: *Sarcoma* of the foot in a man aged 72. Dr. W. ESSEX WYNTER and Mr. JOHN MURRAY: Subcutaneous *Drainage for ascites*, by means of a decalcified bone tube between the peritoneal cavity and subcutaneous tissue. Suppuration necessitated withdrawal of the bone tube fourteen days later, but the fluid had not reaccumulated. The case was one of hobnail liver in a woman. Dr. R. HUTCHISON: *Hirschsprung's disease*. The patient was shown at the last meeting and was shown again after treatment by brine enemata. The abdomen had become much flatter. Dr. A. F. HERTZ: Case of organic *Hemiplegia* following typhoid fever, in which the plantar reflex was flexor, but Babinski's second sign—combined movement of the trunk and pelvis—was present. Mr. T. H. KELLOCK: A boy after *Pneumonotomy* for a large pin in the base of the right lung. Bronchoscopic methods had been unsuccessful. No empyema was present. The operation was performed from the back, a window being made in the parietes, the lung everted, its base incised, and the pin removed. Good recovery followed.

SECTION OF LARYNGOLOGY.

AT a meeting on December 6th, Mr. HERBERT TILLEY, President, in the chair, the following were among the exhibits:—The PRESIDENT: (1) A case of *Necrosis of the cricoid cartilage* fifteen years after successful operation on the epitheliomatous anterior ends of the cords by Sir Felix Semon, to illustrate that sequelae of such thyrotomies were not necessarily malignant in character. By laryngoscopy a narrow glottis aperture surrounded by intensely congested cicatricial tissue was observed, while a pale granulation presented itself in the glottis. Dyspnoea, dysphagia, and tenderness on pressure were present. Tracheotomy and thyrotomy with resulting cure was performed. (2) A man, aged 68, with an enlarged tonsil treated five times by *Galvano-puncture*. Three punctures were made on each occasion. The enlargement was glandular, and shrivelled up rapidly, with relief to the catarrh and deafness. Dr. W. H. KELSON ascribed the result due to a property of the cautery to initiate absorption. Dr. WATSON-WILLIAMS pointed out that these lymphoid hypertrophies were due to sepsis, while the cautery was antiseptic. Dr. FITZGERALD POWELL remarked that the usual practice was to cauterize superficially and not to puncture. Dr. L. H. PEGLER was of opinion that the cautery had been given up on account of the resulting pain. Dr. DUNDAS GRANT referred to the neuralgic pains and closure of the lacunae as the reason for the disuse of the cautery. The PRESIDENT replied that his patient had not complained of pain. Mr. C. W. H. HOPE and Dr. EMERY: A case of *Gummatous rhinitis* treated with two injections of 0.55 gram of salvarsan. Remarkable improvement followed. Previously potassium iodide had been given with mercurial inunction for three months without improvement. Mr. F. H. WESTMACOTT said that in his experience potassium iodide in 20-grain doses was still necessary after salvarsan. Mr. LOGAN TURNER related the effects of *Nascent iodine* obtained by the use of sodium iodide and hydrogen peroxide lotion. Mr. HUNTER TOD said his experience of nascent iodine was that only some of the cases improved, while the method was tedious. He recommended the curette; treatment of the nose should precede skin treatment. Sir STCLAIR THOMSON had not found arsenic of help, but relied on improved hygiene in spite of relapses. Dr. H. J. DAVIS related a case in which nascent iodine had caused the palate in one case to break down. Dr. D. R. PATERSON: A chicken bone removed from the upper part of the oesophagus, where it was impacted for forty-eight hours. Dr. H. J. DAVIS: (1) A case of transverse passage of a Mauser bullet through the larynx, with destruction of both cords. (2) A spicule of bone removed by upper *Bronchoscopy* from the trachea of a boy, aged 5, suffering from dysphagia. Dr. Phillips had anaesthetized this patient with ethyl chloride, and then injected ether into the buttock. The anaesthesia was excellent. Drs. P. WATSON-WILLIAMS and N. S. FINZI: Three cases of malignant disease which had benefited by *Radium treatment*. A patient, aged 69, with sarcoma of the left superior maxilla, was treated by operation in January, 1912, and the maxilla, with the exception of the roof, removed. The growth, a round-cell sarcoma, recurred eight months later in the roof. The roof was removed, but the pterygo-maxillary fossa had been invaded as well as deep glands in the neck. Dr. FINZI described the treatment with 200 mg. of radium with a platinum screen for four and a half to fourteen hours. He considered round-celled sarcoma and rapid maxillary epithelioma to be favourable cases. Mr. HERBERT TILLEY had found that squamous epithelioma gave unsatisfactory results with radium at the institute.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, December 11th, 1912.

Dr. HAIG FERGUSON, President, in the Chair.

Pseudo-eclampsia.

SIR HALLIDAY CROOM, in a paper on pseudo-eclampsia, described the case of a secundipara, seven months pregnant, who had had severe fits for two days with marked coma. As the urine was normal and the toxaemias of pregnancy thus eliminated, and there was no evidence in the eyes or limbs of any nerve lesion, the diagnosis was extremely difficult. The patient died, and at the autopsy a cholesteatoma the size of a Tangerine orange was found in the brain, lying near the anterior end of the left cerebral hemisphere opposite the superior middle and inferior frontal convolutions. In another case the pseudo-eclampsia was due to meningitis. Dr. BERRY HART observed that if there had been no autopsy the case would have been called eclampsia without albuminuria. Dr. BALLANTYNE believed that there were, in fact, cases of true eclampsia without albuminuria, though they were rare. Dr. FORDYCE mentioned two cases treated as eclampsia in which at the autopsy cerebral haemorrhage was found. Dr. JAMES YOUNG suggested that in such cases the haemorrhage might be really a sequel to the eclamptic seizure. Sir HALLIDAY CROOM, in reply, stated that, in view of the cases he had recorded and similar observations in literature, he was no longer inclined to believe in eclampsia without albuminuria.

True Eclampsia.

Dr. GEORGE R. LIVINGSTON read notes on five cases of eclampsia treated in a country practice. In the first three (treated by hypodermic injections of morphine sulphate), the mothers recovered and the children were born alive. The fourth patient had eclampsia in four successive pregnancies—namely, (*a*) fits and miscarriage about the fourth month; (*b*) fits and miscarriage about the sixth month; (*c*) fits and

miscarriage about seven and a half months. During this there was a severe pulmonary haemorrhage. On these three occasions the patients were treated with hypodermic injections of morphine sulphate. (*d*) During the fourth pregnancy thyroid extract was given prophylactically throughout, and the seizure did not occur till full time. Then morphine sulphate was again given and chloroform controlled the fits for several hours. The child was born dead and the mother expired several hours after labour. The fifth case was a primipara aged over 30, who was seen in deep coma. There was no dilatation of the os. Caesarean section resulted in the saving of both mother and child. The fits ceased after the operation.

Sir HALLIDAY CROOM referred to the unusual number of eclampsias the author had had in his practice in the country, and congratulated him upon his success with morphine sulphate. Dr. BALLANTYNE thought that the best treatment in a country practice was morphine sulphate, whilst in a hospital the best results were obtained by irrigation of the stomach, hot packs, etc. Dr. OLIPHANT NICHOLSON suggested that the fourth case reported might be one of chronic granular kidney. Dr. LIVINGSTON, in reply, said that in the intervals there never was any trace of albumen. The death of the patient was probably due to chloroform, which should never be used in any toxaemic state.

Exhibits.

The following were among the exhibits:—The PRESIDENT: A *Multilocular cyst* incorporated with the wall of the uterus and lined with epithelium. Dr. M. R. DRENNAN: A female fetus showing a large left-sided congenital *Diaphragmatic hernia.*

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 6th, Dr. G. P. SHUTER, President, in the chair, Mr. SAMPSON HANDLEY, in a paper on *Pelvic appendicitis*, dealt with the characteristics of appendicitis when the appendix occupies a pelvic position. Early operation was specially important in pelvic appendicitis, because in the earliest clinical stage of the disease the appendix might be gangrenous or distended to the point of rupture, and because in the pelvis the formation of a small localized abscess round the appendix was the exception. More usually an unlocalized peritonitis resulted, which was very apt to produce inflammatory paralysis of the pelvic intestines. The pelvic ileum was intensely congested, oedematous, sharply kinked and immobile, while the ileum above the pelvis was distended but not inflamed. The obstruction was, moreover, a duplex one, for he was able to show from his cases that the pelvic sigmoid also was the seat of obstruction—a fact of great importance in treatment. Clinically the disease might be divided into three stages: (1) The stage of hypogastric colic, or ambulatory stage; (2) that of intestinal obstruction; (3) that of peritonitis. Frequently cases were first seen by a medical man in the second stage, for the subjective signs were less marked if the appendix lay in the pelvis. The clinical signs were next dealt with in detail. Pain on micturition, and the absence of rigidity and swelling in the right iliac fossa, were especially referred to. A retrocaecal appendicitis with trickling of pus into the pelvis might closely simulate a pelvic appendicitis. Moreover, a pelvic abscess was a common result of inflammation of a normally placed appendix; in such cases intestinal obstruction rarely resulted, and the prognosis was much better than in true pelvic appendicitis. In regard to treatment, seven cases operated upon during the first 48 hours after onset all recovered. Ileo-caecostomy was necessary in only two of these cases. Of 8 late cases, some of whom were first seen in a hopeless condition, 5 died. It was essential to decide definitely whether inflammatory obstruction was or was not present. In the presence of obstruction an ileo-caecostomy was necessary. Remembering that the pelvic sigmoid was also paralysed, it was necessary to provide a temporary safety-valve for the large intestine by tying a catheter into the caecum. Ileo-caecostomy combined with caecostomy was the method of choice for obstruction of pelvic inflammatory origin.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on December 13th, Dr. J. DOBSON, President, in the chair, the following were among the exhibits: Dr. WARDROP GRIFFITH: A woman, aged 26, in whom *Hemiplegia* had developed gradually though rapidly. The initial symptoms were partial loss of power in the left arm and leg, with feelings of chilliness in these limbs and also in the left side of the face. She was able to get to bed, but soon after lost the use of the left side of the body completely. Steady improvement is now taking place, two months after the onset. Dr. GRIFFITH was of opinion that an initial embolism had occurred, and this had been followed by thrombosis, and that the improvement was to be attributed to absorption of the clot. Dr. CHURTON: Two cases of *Angina* associated with marked arterio-sclerosis. Dr. WILFRED VINING: A patient exhibiting symptoms suggestive of *Friedreich's ataxia.* The indications were largely confined to the right side, and had been present for about twelve years. There was no evidence of heredity. Dr. MAXWELL TELLING: A case of *Locomotor ataxia* in a woman whose husband was a tabo-paralytic. Major SPENCER: A case of lympho-sarcoma treated with *Coley's fluid.* The patient was a man of 26, from whom a large mass of glands, diagnosed by the pathologist as lymphosarcoma, had been removed in March, 1912. Owing to rapid recurrence, a second operation was performed three weeks later, but it was not possible to completely remove the tumour. Treatment by Coley's fluid was commenced forthwith, and the dose gradually increased to 10 minims daily. The tumour was completely gone at the end of eight weeks, and there had been no recurrence up to the present time. Mr. LITTLEWOOD: A case of *Salivary fistula* following a gumma of the cheek. He had excised the fistulous opening and then dissected out the duct, having first passed a silver wire along it. A small steel tube was then passed into the duct, and tube with duct passed through the cheek into the mouth, an opening having been made for it through the outer edge of the masseter muscle. The end of the duct with tube *in situ* was secured by a catgut stitch, which was fixed around the last upper molar tooth, and the incision on the outer side closed. The result was satisfactory.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on December 5th, Mr. ROBERT JONES, President, in the chair, Drs. STOPFORD TAYLOR and R. W. MACKENNA showed the following among a large number of cases, photographs, and casts: (1) A girl, aged 8, with three varieties of tuberculous lesions—namely, lupus pernio affecting the fingers, lupus erythematosus, and pulmonary tuberculosis. Von Pirquet's test, positive. (2) A man suffering from *Darier's disease.* Under treatment with the *x* rays very marked improvement has been obtained, as shown by photographs taken before treatment was begun. (3) A case of *Lupus verrucosus* treated with zinc ions. The soft and pliable scar of almost normal colour was a striking feature. Photographs of the hands, showing the great extent of the disease before the treatment, were exhibited. (4) A case of *Chlorine acne* in a chemical labourer. The whole trunk of the patient before treatment was covered with large sebaceous cysts, which were removed by excision. The smaller lesions had been treated with the *x* rays with great success. Subsequently the same gentlemen read a joint paper entering into the whole subject of ionic medication in detail. They concluded, after describing the principles and technique of the treatment, that the widest field for its application was dermatology. The zinc ion gave excellent results in the treatment of lupus vulgaris, the resulting scar being soft, pliable, and elastic, and differing only slightly in colour from the normal skin. Ionization with zinc was the best method of treating intranasal lupus. The zinc ion would also cure many cases of rodent ulcer, and coccogenic sycosis might likewise be successfully treated with this ion. The chlorine ion would cure alopecia areata; ringworm of the scalp might be treated by the iodine or mercuric ion. The copper ion had been used for lupus erythematosus, and the magnesium ion would cure multiple warts.

Pigmented stains might be removed from the skin by ionization. The advantages of ionic medication were the ease of its application, its comparative painlessness, and the fact that it enabled remedies to be introduced into the actual protoplasm of the cell. Even greater results might be expected from ionic medication when some of the radio-active salts had been pressed into service.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

AT a meeting at Edinburgh on November 30th, Dr. J. S. FRASER in the chair, the following were included in the proceedings: A report on 76 consecutive *Operations on the nasal accessory sinuses* was submitted by Drs. J. S. FRASER and RAYMOND VEREL. The discussion which followed dealt chiefly with the method of treating antral suppuration, the general opinion being that where washing out the antral cavity did not lead to a cessation of the discharge resort should be had to the Caldwell-Luc operation; in the great majority of cases a cure could be confidently anticipated. Dr. J. H. GIBBS contributed a paper, illustrated by lantern slides and skiagrams, on *Dental surgery in relation to rhinology*. Speaking of developmental defects, he insisted especially on the importance of training young children to use their muscles of mastication for the purpose of widening the dental arches, and so increasing the width of the nasal passage. Dr. J. KERR LOVE gave a lantern demonstration relating to the production of both *Congenital and post-nasal deafness* by congenital syphilis, and Dr. CARL BROWNING adduced some facts which tended to confirm Dr. Love's opinion that the aural condition was the result of an expiring syphilitic virus. Dr. LOGAN TURNER showed 4 cases of lupus of the nasal mucous membrane treated by *Pfannenstiel's method* (nascent iodine). Sodium iodide was administered in small doses at first. At the end of a week the amount was 30 grains in twenty-four hours. The nasal cavities were then carefully cleansed and packed with strips of sterilized gauze. The patients were instructed to keep these plugs moist with a solution containing hydrogen peroxide and a small quantity of hydrochloric acid and perchloride of iron. The results were more satisfactory than those of other methods of treatment. Dr. T. W. G. Ross read a paper on 15 cases in which the bone cavity after the radical mastoid operation was treated with *scarlet red*, and showed several patients in illustration. Epithelialization appeared to be hastened by this method. Dr. MILLIGAN, among other cases, reported one of *Traumatic perforation of the oesophagus*. A rabbit bone had been swallowed ten days previous to the patient coming under observation. On oesophagoscopy no bone could be found, but at the level of the bifurcation of the trachea a small granulation was seen. Haemorrhage subsequently occurred, and the patient died on the twelfth day after the accident. On *post-mortem* examination a small patch of necrosis was found in the oesophageal wall. The adjacent mediastinal tissue was also black and necrotic, and the aorta was similarly affected in a small area in which there was a perforation. Dr. FARQUHARSON showed a man who had suffered from severe dyspnoea as the result of a large cyst in the region of the right arytenoid and aryepiglottic fold. The cyst was incised but filled again and was again opened. It gradually disappeared under vocal rest and inhalations, and the movements of the cord slowly returned to normal. Dr. J. D. LITHGOW described an intranasal radical operation devised by him for dealing with maxillary antral disease. The first of its two stages was the usual intranasal procedure, the removal of the lower and anterior part of the nasal wall of the antrum. If there were still discharge at the end of five or six weeks the second part of the operation was performed. This consisted in the removal by mean of scissors and snare of the anterior third of the inferior turbinal together with a large part of the adjacent antral wall. The after treatment could be carried out by the patient, and consisted in spraying the antrum with hydrogen peroxide, douching with saline, and insufflating ½ per cent. solution of menthol in parolein. The cavity could be inspected with the aid of the lateral mirrors made for the purpose, and curettage carried out if necessary. Dr. W. G. PORTER showed two cases of *Ozaena* treated by an autogenous vaccine of Abel's bacillus which was found in pure culture. Eighteen inoculations were given, ranging from 10 million at first up to 300 million at intervals of a week in the earlier period, and longer intervals in the later. The formation of crusts ceased and the odour disappeared. Communications were also made by Drs. J. M. DARLING, BROWN KELLY, J. ADAM, W. T. GARDINER and H. H. BOLTON.

GLASGOW SOUTHERN MEDICAL SOCIETY.

AT a meeting on December 5th, Dr. JAMES A. AITKEN, President, in the chair, Dr. DAVID SHANNON advocated a more thorough clinical teaching of midwifery, pointing out that at any time after graduating one might be called on to conduct various operative procedures known to have a higher mortality than a gastro-jejunostomy or removal of an appendix. The importance of prematernity treatment of pregnant women was emphasized in the necessity for prompt detection of albuminuria, and by its proper treatment eliminating or minimizing the risks of eclampsia and also of the commoner conditions of hyperemesis gravidarum, acute and *post-partum* haemorrhage, death of the fetus, and subinvolution, which was much more frequent when albuminuria existed. A too common error was the diagnosis of contracted pelvis only when the patient was well advanced in labour. It should be diagnosed before labour began by the practitioner seeing his patient in the last month of pregnancy, and estimating the relative size of the child's head to the brim of the pelvis. Systematic care of the nipples before childbirth prevented much trouble in nursing and many complications. But it was during labour that the majority of mistakes were made. The mortality from puerperal infection was practically the same to-day as forty years ago. A large proportion also of gynaecological ailments following mild attacks of puerperal sepsis might be avoided by more complete asepsis during labour. Obstetrical operations were more dangerous than was generally understood. Andrews of Marburg had shown that even in lying-in hospitals the mortality from the induction of premature labour was nearly 2 per cent., from version 1.7 per cent., from application of forceps 2.8 per cent., from manual removal of placenta 8 per cent., while there was a rise of temperature in 50 per cent. of all cases. Hence such procedures could never be lightly undertaken. Interference in the second stage in most of the minor degrees of contracted pelvis was unnecessary if due consideration were given to the relative size of the child's head and the brim of the pelvis. During 1909 in Professor Munro Kerr's clinic there were 46 cases of contracted pelvis, and out of that number 25 cases with true conjugates ranging between 3¼ and 3¾ in. delivered themselves spontaneously without any fetal or maternal mortality. The majority of these women were in the second stage of labour many hours, and the results were perfect. A common and grievous error was frequent in these when the practitioner, finding no progress after some hours in the second stage, applied forceps and failed to extract the child. Caesarean section if now performed showed a mortality of 34.5 per cent., in place of the mortality of 2 per cent. which prevailed if section were carried out when forceps had not been applied. In occipito-posterior cases forceps were often applied too early. Early interference in face and breech presentations likewise led to mischief. Manual removal of the placenta, it should be remembered, was a dangerous procedure, and one should hesitate long before carrying it out.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting on November 27th, Dr. LINDSAY, President, in the chair, Professor MUNRO KERR analysed a year's work in his ward in the Glasgow Royal Infirmary. It included 6 abdominal sections performed during pregnancy, 2 ovariotomies, 1 myomectomy, 1 appendicectomy, 1 intestinal obstruction, and 1 ruptured bladder with retrodisplacement of the gravid uterus. With the exception of the latter

all ended in recovery and without pregnancy being disturbed. These results were attained by handling the uterus with extreme gentleness, for abortion was liable to occur if the uterus were roughly handled. In all the cases the patients were kept under morphine for the first two days after operation. A number of papers relative to *Caesarean section* were then read. Dr. A. W. RUSSELL, describing the widened scope of the operation and its modification, described the extraperitoneal method of Frank as the most noteworthy of the latter. Its marked success depended on the ease with which the peritoneum could be pushed up from the bladder and uterus. The obstetrician had in this operation a means of helping a woman with much less risk than by the intraperitoneal method at a stage when labour was advanced. The risks of serious septic trouble were markedly diminished. Caesarean section by one method or another secured for mother and child in many difficult and abnormal cases better results than accrued from the older and often mutilating practices of high forceps, *accouchement forcé*, decapitation and embryotomy. Dr. LAURIE (Greenock) recorded a case of Caesarean section in which the operation was successfully performed for obstruction to delivery by a subperitoneal dermoid tumour. Dr. W. D. MACFARLANE, after recording corresponding treatment of a case of placenta praevia, stated that he had seen 5 cases during the past year in which he had found that the methods of Braxton Hicks and vaginal plugging had not given satisfactory results. It would have been possible in all the cases to perform Caesarean section easily with probable successful result both to mother and child. In 26 cases of placenta praevia treated by Caesarean section and reported by Krönig and Sellheim all the mothers and children recovered, and the operation was perfectly justifiable in the hands of one accustomed to abdominal surgery. It was the ideal treatment of central placenta praevia when the mother had not been infected by much handling and the child was viable. Dr. DAVID SHANNON described a case in which Caesarean section had been adopted at the third delivery of a patient whose perineum had been badly torn at each previous delivery. On the third occasion, considering the certainty of further tearing, and as the perineum was almost wholly made up of scar tissue, Caesarean section was advised and performed. She was sterilized at the same time by tying the Fallopian tubes, and made an excellent recovery.

HARVEIAN SOCIETY.

AT a meeting on December 12th, Dr. H. J. MACEVOY, President, in the chair, Mr. CHARLES W. M. HOPE, in a paper on *Suppuration in the nasal sinuses*, said many cases first came under notice on account of troubles otherwise than nasal; an instance in point was a patient who came to him on account of deafness in the right ear, due to middle-ear catarrh, the cause of the latter being a foul maxillary empyema on the same side. Dr. SPILSBURY, in a paper on *Injury as a predisposing cause of new growths*, said that tumours of the more superficial parts of the body were those in which a history of injury was most frequently obtained. Osseous tumours occurred with greater frequency in the bones more commonly injured, and in those parts thereof which were more superficial. In brain tumours, the tuberculous as well as the neoplastic, not only was there a frequent association with injury, but in some cases a remarkable relationship of the tumour to the injured area either immediately beneath it or in the *contre-coup* position. Again, in melanotic growths of the skin, injury or chronic irritation by clothes or otherwise appeared frequently to be a cause of tumour development. In testicular or mammary tumours injury was probably a less frequent predisposing cause.

THE King and Queen are patrons of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy, which was founded as the outcome of a public meeting held last July. Mr. John Burns is the president of the association, and Sir Thomas Barlow is chairman of the executive committee. It has been arranged to hold a post-graduate course on the feeding and care of infants in London in January (6th–16th). The executive committee is organizing an English-speaking Conference on Infant Mortality, to be held in London on August 4th and 5th. Further particulars may be obtained from the Secretary, Miss Halford, 4, Tavistock Square, London, W.C.

Reviews.

LEAD POISONING AND LEAD ABSORPTION.

THE book on *Lead Poisoning and Lead Absorption*[1] by Dr. LEGGE and Mr. GOADBY fills a gap and ought to be useful to certifying factory surgeons and medical men interested in the subject of occupational diseases. The lead question is approached from all points of view and very fully discussed. The book covers ground which neither of the writers single-handed could have adequately mapped out. After a short historical sketch of the chemistry of lead, the channels through which the metal or its compounds gain entrance into the body—the respiratory and gastro-intestinal tracts and the skin—are discussed. The writers are disposed to attach more importance to the respiratory than to the intestinal tract, since men when at work inhale considerable quantities of dust. That fine particles of dust reach the lungs is now generally admitted, and that lead dust is capable of being absorbed by the lung is now regarded as certain. Upon the question whether it is so exclusively the channel as the writers plead, and as Mr. Goadby's experiments appear to indicate, opinions are divided. Sir Thomas Oliver, in his Goulstonian Lectures and in his *Diseases of Occupation*, is quoted as one of the authorities who, while admitting the respiratory source of the absorption of lead, is not disposed to put aside the gastro-intestinal tract so entirely. Meliere's view—that absorption of lead dust by the lung is not proved, and that it is not a channel of absorption of practical importance, since dust inhaled must for the most part be deposited on the mucous membrane of the upper part of the respiratory tract and be absorbed from mouth and larynx—receives little support from the writers, who state that experimental evidence is entirely opposed to these suppositions. There has lately come into the field a strong supporter of the gastro-intestinal tract as opposed to the respiratory in the person of Saito, a Japanese investigator, who has demonstrated experimentally that even when lead is inhaled it enters the body mostly by the gastro-intestinal tract. There is less divergence of opinion in regard to the view that when lead dust is inhaled it is far more dangerous and produces symptoms earlier than when passed into the system directly through the intestinal canal. The mechanism of the absorption of lead is described in an interesting manner. In plumbism, as in other forms of poisoning and the administration of certain medicines, the white corpuscles of the blood are active agents of absorption and distribution. Inside these corpuscles lead enters into combination with the proteid constituents, and since the corpuscles with the absorbed lead do not readily stain so as to show the presence of the metal, the probability is that the lead enters into some peculiar combination with the protein such as peptonate or albuminate. Other writers have referred to the fact that the phagocytes in the gums take up and retain particles of lead, and that by means of the white corpuscles which have become the pus corpuscles in an abscess, lead is eliminated from the body.

In the chapters on susceptibility and immunity the reader will find valuable and interesting material. As regards the influence of sex and the greater susceptibility of the female to lead poisoning, the views advanced by Oliver years ago, and based upon his experience in Newcastle, are supported by the authors, who also speak in similar terms of the influence of alcohol as a predisposing agent for harm.

The pathology of lead poisoning is discussed at considerable length, and the various conflicting theories are impartially reviewed. While the paralytic physical signs and symptoms suggest a lesion of the peripheral nervous system, changes in the central nervous system as well are frequently found, particularly in advanced cases. Minute haemorrhages in the brain are not unknown. Mott found them. Westphal believes that there is degeneration of brain with oedema; so, too, does Chvostek. Kolisko found cerebral oedema in a case of acute saturnine encephalo-

[1] *Lead Poisoning and Lead Absorption.* By Thomas M. Legge, M.D.Oxon., His Majesty's Medical Inspector of Factories, and Kenneth W. Goadby, M.R.C.S., Pathologist, National Dental Hospital. International Medical Monographs. London: Edward Arnold. 1912. (Med. 8vo, pp. 316. 12s. 6d. net.)

pathy, while Quensel and Nissl observed changes in the cells of the cortex. In Steiglitz's experiments on animals anatomical changes were found in brain and spinal cord, while Prévost and Binet observed inflammatory changes in the peripheral nerves of rabbits after lead had been given for one month. The paralysis of lead poisoning is believed by the authors to be the result of minute haemorrhages in the nerves supplying the affected muscles, or in the muscles themselves. The various forms of paralysis are described.

So far as the kidneys are concerned it is held that the changes principally affect the interstitial tissue. Anaemia is regarded as an early sign of lead poisoning. There is a diminution in the number of red blood corpuscles and occasionally a mild leucocytosis in the early stages of plumbism, the increase being mostly of lymphocytes and mononuclear corpuscles. A slight increase of eosinophiles has also been noticed, but beyond the diminution of red corpuscles none of these is constant or pathognomonic. Basophilia is more important since it is by many writers believed to be a reliable sign of plumbism. It is met with in other diseases and is not always easy to demonstrate. Recognizing this difficulty Legge and Goadby state that as it would be impossible to expect the general practitioner or the certifying surgeon to estimate the basophile content of the blood, "all such estimations would necessarily have to be performed at some properly equipped pathological laboratory such as at the present time many municipal authorities possess."

Attention is properly directed to the difficulty of stating from naked eye *post-mortem* appearances alone whether death was due to plumbism. Several points are laid down to be looked for in the dead body, but beyond two or three of them they are of doubtful value and could not be brought forward in a court of law.

The treatment of plumbism and the preventive measures to be used against lead poisoning are detailed at considerable length. The importance of periodical medical examinations is insisted upon. As the processes of manufacture of white lead, its compounds, and the presence of lead in metals are fully described, this book, as already stated, ought to find its way into the hands of certifying factory surgeons, works' medical officers, and all medical practitioners who take a thoughtful interest in this aspect of occupational disease.

PELLAGRA.

THE spread of pellagra in the United States of America during the last few years has occasioned something approaching to dismay amongst medical men in that country. Sporadic cases were recorded in the United States as long ago as 1863, and from time to time up to 1907 reports of the disease were received from several districts of the Southern States. By 1911 cases were notified from no fewer than thirty-four States, and in some of these the disease prevailed to a marked extent. Dr. NILES, in referring to the subject of etiology in his book on *Pellagra*,[2] deals fully with the damaged maize or "Zeist" theory, and gives records of experiments and observations tending to support it. Sambon's theory that pellagra is an insect-borne disease is also set forth, but the author is "unable to subscribe to it"; at the same time he does not attempt to dogmatize on the subject of etiology, which he thinks is still open. The varied signs and symptoms of pellagra in its cutaneous, gastro-intestinal, and cerebro-spinal aspects are fully dealt with. Perhaps the most interesting phenomena of pellagra are those affecting the nervous system; and of these, the mental depression, the hallucinations, and the dementia—conditions of mind which condemn the patients to lunatic asylums—from many points of view call for especial attention. In searching for pellagra cases in any country, the lunatic asylum is the first place to be visited, and, if for no other reason than the fact that the disease can be considered as a factor in lunacy, pellagra becomes of peculiar interest.

Beyond an account of changes in various organs in no way specific, the author finds nothing positive as to the pathology of the disease, and can tell us little not previously published. A specific treatment for pellagra has not been found. Lombroso employed arsenic, sodium chloride, and a liberal diet. Babes found benefit from atoxyl and sodium arsanilate. More recently transfusion and a pellagrous serum have been employed; and even surgical operations, such as appendicostomy or caecostomy, with irrigation of the colon, in the belief that the "pellagrous germs" frequented the colon, have been tried. The general treatment consists of dietetic and hygienic care of the patient; baths of various kinds are commended. Medicinal treatment varies with the stage of the disease; arsenic and potassium iodide have been most favoured. The prophylaxis of pellagra must at present remain uncertain, for until it is determined whether it is or is not a communicable disease nothing definite can be said. To those who uphold the "Zeist" theory, the withdrawal of damaged maize from the dietary of the community is a simple prophylactic measure; but if the infection is carried by an insect, all attention must be devoted to prevent that insect—a *Simulium*, according to Sambon—reaching the bodies of uninfected persons.

Dr. Niles's book is an excellent exposition of pellagra in all its bearings, as far as we know them to-day. As the author remarks, many of the opinions dwelt upon may be refuted to-morrow, but as a fair and unbiassed account of pellagra to date we could not desire a better. The illustrations are excellent, and the book is presented to us in a manner which at once commends itself to favourable notice.

[2] *Pellagra: an American Problem.* By G. M. Niles, M.D., Professor of Gastro-enterology and Therapeutics, Atlanta School of Medicine, U.S.A. Philadelphia and London: W. B. Saunders Company. 1912. (Med. 8vo, pp. 253; plates 18. 13s. net.)

THE PARENTAL AGE-FACTOR IN EVOLUTION.

THE questions which Dr. EWART has set himself to answer in his monograph on *Time and the Second Generation*[3] are of considerable interest, theoretical and practical, but also of no little difficulty. If we accept Professor Keith's estimate of the minimum antiquity of the human race as 1½ million years, it seems unlikely that appreciable evolutionary changes can be detected from generation to generation. Dr. Ewart, however, has with praiseworthy industry conducted a number of observations upon the relation between parental age and certain characters of the offspring; he claims to have demonstrated the power of the former to produce permanent and transmissible modifications of the latter, tending, under favourable conditions, from the simple to the complex, from the homogeneous to the heterogeneous, from the inco-ordinate to the co-ordinate—that is, conforming to the type of evolutionary advance as formulated in Spencer's well-known law.

The community which was taken as his field of observation was that of Middlesbrough, a thriving modern town of 105,000 inhabitants, mainly dependent on the iron industry, and comprising representatives of all the racial elements that have contributed to the nation as a whole. Between these various elements mating takes place, and Dr. Ewart is inclined to attribute the well-marked energy of the town to the inherent stimulus of the cross-breeding. The first point examined was the distribution of recent births in relation to parental (maternal) age; and this investigation showed a relative increase of births during the maturity period (mother aged 25 to 30) and a decline in those at the extremes of child-bearing life. Further inquiries had as their objects the estimation of the effects, if any, of maternal age upon the fertility of the mother herself, and upon the eye-colour, natural immunity, death-rate, stature, growth, sex, and mentality of the offspring. Dr. Ewart concludes that fertility is at its highest at or about the twenty-seventh year, and in this opinion he has the support of Matthews Duncan. The result of his various inquiries has led to his forming the opinion that children born when the mother is at or about this age show upon the average a distinct superiority in regard to the characteristics chosen for investigation, while at the same age-period the birth-rate for the two sexes is approximately equal. "The main point which cannot fail to strike us is," he says, "the coincidence in the general nature of the changes observed in relation to parental age. In all characters we have a rise up to about the twenty-seventh year, and then a fall."

Dr. Ewart appears to favour Weismann's hypothesis of the non-transmissibility of acquired characters, properly

[3] *Time and the Second Generation.* By Robert G. Ewart, M.D., M.Sc., F.R.C.S., D.P.H. Reprinted from the *Medical Officer*. London: 36-38, Whitefriars Street, E.C. 1912. (Demy 8vo. pp. 43. 1s.)

so-called. The new positive characters which tend to manifest themselves in the offspring of mature as contrasted with younger or older parents must, in his opinion, be credited to some force inherent in the germ itself, which at this time attains its maximum potentiality. Under the avowed influence of Bergson he, with that philosopher, regards *time* as a synonym for some creative impulse (*élan vital*) making for differentiation and racial progress. There will probably be less hesitation in accepting his further deduction that, by the selection of a series of matings conducive by the age of the parties to maturity births, a new type of human being might be obtained within comparatively few generations. But as, in Middlesbrough at least, the tendency is for such mature matings increasingly to prevail, the variations observed should be more conspicuous than they are, unless, as he inclines to believe, some counteracting influences favour the maintenance of the racial average. This question is considered, among others, in an appendix on Time and the Third Generation, in which the factor sought is identified as a diminishing fecundity among women born of mothers between the ages of 25 and 30. On the other hand, he finds that retrogressive tendencies are checked by the higher mortality prevalent among the offspring of parents at either extreme of reproductive life.

We congratulate Dr. Ewart on a valuable and suggestive piece of research, and recommend all who are interested in the important subject with which it is concerned to obtain and study his pamphlet.

SCIENCE AND THE OCCULT.

PROFESSOR GRASSET, in his recent work *The Marvels beyond Science*,[4] has very ably covered the field of inquiry generally known as psychical research, and has with no slight success separated the wheat from the chaff—and there is much chaff. Science is ever extending its boundaries however, and the "occult" of yesterday, as Professor Grasset puts it, "becomes the scientific fact of to-day." In the reclamation of this territory medicine has begun to play, and should continue to play, an important part. Already many phenomena which formerly were attributed to "the evil eye" have entered the domain of science, and now belong to what we call "the psychoses." Animal magnetism has become hypnotism; the divining rod, the turning of tables, and a certain number of mediumistic phenomena—all these have ceased to belong to "the occult." Professor Grasset excludes from his survey any consideration of the supernatural, which, as he points out, lies in the domain of theology, not in that of biology. The miraculous, strictly so called, is in his view neither scientific nor prescientific. The difficulties encountered in the investigation of the occult are great, one of the chief being that these phenomena cannot be reproduced at will, and that it is almost impossible to submit them to the strict tests of the laboratory. Professor Grasset divides the psychism of the human mind into what he calls the hyperpolygon or upper centres, and the polygonal or lower centres of activity, corresponding, we suppose, to what are ordinarily understood as the superliminal and subliminal consciousness of Myers. In normal circumstances both these centres act in consonance. In sleep, however, we have an example of physiological hyperpolygonal disaggregation, but whereas the upper centre is quite unconscious, the polgygon remains active to a variable degree, and being uncontrolled by the hyperpolygon has free scope. In normal sleep these activities are purely sensory, resulting in what are known as dreams. In the waking state "absent-mindedness" is another example of polygonal independence.

Professor Grasset holds that the condition of affairs in hypnotic or provoked sleep is precisely analogous. The polygon of the hypnotized person, being cut off from the supervision and control of the hyperpolygon, is readily affected by suggestion on the part of the conscious mind, or hyperpolygon of the operator. It becomes, therefore, an automatic obedience to the idea suggested, affecting equally the motor or sensory centres. The motor activities of the polygon, indeed, may embrace every form of conscious motor activity, and although automatic and unconscious, are equally regulated and co-ordinated. The familiar phenomenon of "table turning" may be explained in this way. A medium, according to Professor Grasset, is a "person whose polygon is more active and more easily exteriorized than that of others." In such persons polygonal life and activity is notably intense, "while, further, they possess great power of hyperpolygonal disaggregation." With regard to their alleged power of calling up the spirit of the great departed, or assuming temporarily the personality of these, we can only say that the conversations supposed to have been carried on by the shades of Shakespeare and other immortals, pay no great compliment to our ideals of those great minds. Wundt, indeed, with a touch of sardonic humour, bitterly complains of the deterioration undergone by the spirits of the mighty dead. "They talk," he says, "exactly like idiots"! If the sublime hope of a survival after death is ever to be ratified by science, it will not be by such means. It would, indeed, be better, as Dr. Grasset says, to give up wishing for a future life, if we have to share it with such individuals.

[4] *The Marvels beyond Science.* By Professor Joseph Grasset, M.D. New York and London: Funk and Wagnalls Co. 1910. (Pp. 379.)

EFFECTS OF COMPRESSED AIR.

DR. LEONARD HILL's investigations on the subject of compressed air sickness extend over a period of fifteen years, and their comparison with those of Continental workers, notably Paul Bert, has resulted in a volume entitled *Caisson Sickness*.[5] The author gives a graphic account of the evolution of deep-sea diving, and does not fail to note the important landmarks established by his predecessors. He lays stress upon the valuable experiments of Haldane and Priestley, which prove that "the effect of CO_2 on the breathing depends on the partial pressure and not on the percentage of this gas in the air breathed." From this it follows that whatever the pressure a diver is under he requires the same volume of air measured at that pressure. It appears that compression up to four atmospheres is not in itself to be feared. It is, indeed, better tolerated than rarefaction. The results of sudden decompression may be very serious, and include aphasia, paraplegias, myalgia, and Menière's syndrome complex. In his study of the pathology of the condition, the author points out that air embolism of the arteries of the spinal cord is the most constant lesion, because in fatty tissues the circulation is relatively poor, and they absorb much more nitrogen than water. The air bubbles are more numerous in the dorsal and upper lumbar cord than in the lumbar enlargement, where circulation is active. In connexion with caisson working, Dr. Hill makes the valuable suggestion that to prevent the air becoming too warm for efficient work it might be dried by passing it over trays of granulated fused calcium chloride before compression. The process, he states, is both economical and effective. The method of decompression is fully discussed, and as the result of many experiments on his own person Dr. Hill is convinced that the time necessitated for decompression can be much shortened by using in turn every muscle and joint, and by changing position frequently. This is an important point, as the time lost in decompression is considerable. The "stage" method appears on the whole to be the best for use in caissons. With regard to treatment nothing is so efficacious as recompression, but it is important that this should be carried out quickly to prevent permanent damage to the tissues by the air emboli. A recompression chamber ought to be available in all important deep-sea diving work. The book is a most valuable contribution to this important subject, and although highly technical in parts, one does not need to be a profound physiologist to appreciate and enjoy it.

NOTES ON BOOKS.

THE National Association for the Prevention of Consumption and other Forms of Tuberculosis held its yearly conference at Manchester this year, and the proceedings thereat are recorded in full in the volume which Mr. J. J. PERKINS, the honorary secretary of the association, has brought out under the title of the *Transactions of the Fourth Annual Conference*.[6] The conference lasted three

[5] *Caisson Sickness.* By Dr. Leonard Hill, F.R.S. London: Edward Arnold. New York: Longmans, Green and Co. 1912. (Demy 8vo, pp. 250; figs. 66. 10s. 6d. net.)

[6] *The Transactions of the Fourth Annual Conference of the National Association for the Prevention of Consumption and other Forms of Tuberculosis.* London: Adlard and Sons. 1912. (Cr. 4to, pp. 287. 3s.)

days, in the course of which some fifteen papers were read and discussed. They supply a very fair conception of views current among the laity and the medical profession on the treatment of tuberculosis, though mainly in respect of its effect on the child population, and of the influence of the National Insurance Act on the work which sanitary authorities and voluntary societies have hitherto been doing.

Over twenty years have passed since HARE'S *Textbook of Practical Therapeutics*[7] first appeared, and a fourteenth edition has now been published. In the period indicated there have been very considerable changes of thought in therapeutics and several developments of importance, and to all these Professor Amory Hare appears to have paid due attention. Articles on salvarsan and vaccine therapy are included, while the prophylactic and therapeutic use of exercise in the treatment of chest disorders, the local and general application of heat and cold, and other subjects in the region of physio-therapy, are all dealt with at reasonable length. A further good point in this comprehensive and practical treatise is the number of illustrations introduced.

YEAR BOOKS.

Whitaker's Almanack[8] is a British institution. The first issue was for the year 1869, and was the work of the late Mr. JOSEPH WHITAKER, F.S.A., the founder also of the *Bookseller* and editor for some years of the *Gentleman's Magazine*. In the latter capacity he had made for himself a big commonplace book of miscellaneous information. It occurred to him that if this were arranged and pruned it would form a useful volume and meet a public need; that he was right in his opinion was shown by the fact that nearly forty thousand copies of the first issue were taken by London booksellers before the date of publication (December 10th, 1868). The first volume contained 360 pages; the paper-bound edition for 1913 contains 706 pages, and the half-bound 1,052. This includes advertisements, but many of them are in accord with the general character of the book, as, for instance, the list of schools. As usual there are in the new volume some special articles written for the occasion; among them we notice articles on the Insurance Act, on public and private wealth, and on labour unrest.

Under the title of *The International Whitaker*[9] has been brought out a kind of supplement to *Whitaker's Almanack*. As every one knows, the latter contains a good deal of information relating to various lands, and in the supplementary volume such information is extended so as to cover the more important features of the political constitution, history, geography, population, and commerce of every country in the world, including details as to the names of the principal officers of each State. The volume will no doubt receive a welcome.

A further offshoot, but one which has already attained popularity, is *Whitaker's Peerage, Baronetage, Knightage, and Companionage*.[10] A verbal purist might conceivably cavil at the last two terms in its title, but no one could well deny the value of its text. This presents in alphabetical order the names of all persons who legally or by courtesy have any kind of "handle" to their name, and of those who have received a British decoration, together with sufficient details for all ordinary purposes of such reference books.

The annual volume of *Who's Who*[11] continued for a good many years to grow in girth. This year's issue has increased in stature. Last year the height of the column of type was 6½ in.; this year it is 7½ in., an increase of 15 per cent., but the number of pages has only diminished by 6 per cent. The obituary list contains about 250 names. There is, therefore, presumably a considerable proportion of new biographies, and the publishers in a brief introductory note state that the number is continually increasing. A feature that seems to have been a good deal developed in recent years is the inclusion of the names of many persons eminent in the Dominions—an innovation corresponding with the increased interest in, and understanding of, their affairs. The biographies include also the names of many persons of world-wide distinction or celebrity—writers, artists, and politicians. The articles have been revised to the end of last August. It would be difficult to praise this publication too highly; no book of reference would be so often missed from the study table by any one engaged in public life, and it is hardly less indispensable to the newspaper reader.

The publishers of *The Englishwoman's Yearbook and Directory*[12] have again had the advantage of the co-operation of Miss G. E. MITTON as editor, and the issue for 1913 is fully on a par with any of its thirty-one predecessors. A very comprehensive volume, it includes accounts of practically everything that women do by way either of gaining a livelihood or passing their time, such accounts being both detailed and precise. Moreover, so far as they can be judged from the treatment of the subjects of which we have personal knowledge, the accounts are accurate. The same publishers and the same editor have also brought out a new edition of *The Writers' and Artists' Yearbook*;[13] this contains short notes on the preparation of "copy," and indications of the kind of matter accepted by various magazines and journals published in Great Britain, the Dominions, and America.

The "Garden Life" Pocket Diary[14] for 1913 is of the ordinary form of a backloop diary for the pocket, the diary proper showing a week in an opening. But the introductory matter is specialized. There are monthly notes on current work, lists of trees and shrubs with coloured and variegated foliage, of herbs, of Alpines, and silver-leaved plants for the rockery, and notes on the rules guiding judges at shows, together with other information the practical amateur gardener is likely to need from time to time. A useful book, therefore, for such persons. The same publishers issue an *Amateur Gardener's Diary and Dictionary* for 1913; it is in a sense the complement of the other, and would be a useful book for the garden room, or potting-shed. The diary shows on one page what ought to be done in each month, and on the other spaces for entering each day what has been done. The dictionary gives notes of all the principal plants in cultivation and their cultivation, with an appendix of plants, shrubs, and climbers for special purposes and aspects.

[7] *A Textbook of Practical Therapeutics*. By Hobart Amory Hare, M.D., B.Sc. Fourteenth edition. London: Henry Kimpton. 1912. (Medium 8vo, pp. 994; figs. 131, plates 8. 21s. net.)

[8] London, 1912. Paper edition (1s. net) containing 706 pages, and the half-bound edition (2s. 6d. net) containing the whole of the paper edition and 346 additional pages—a total of 1,052 pages.

[9] *The International Whitaker*. London. 1912. (Cr. 8vo, pp. 490. 5s. net.)

[10] *Whitaker's Peerage, Baronetage, Knightage, and Companionage*. 1913. London. (Crown 8vo, pp 854. Price 5s net.)

[11] *Who's Who, 1913*. An annual Biographical Dictionary with which is incorporated "Men and Women of the Time." Sixty-fifth year of issue. London: A. and C. Black. 1912. (Demy 8vo, pp. 2226; 15s. net.)

[12] *The Englishwoman's Yearbook*. Edited by G. E. Mitton. Thirty second year of issue. London: Adam and Charles Black. (Crown 8vo pp. 442. Price 2s. 6d. net.)

[13] *The Writers' and Artists' Yearbook*. Edited by G. E. Mitton. London: Adam and Charles Black. 1913. (Crown 8vo, pp. 150. Price 1s. net.)

[14] *The "Garden Life" Pocket Diary* for 1913. London: Cable Publishing Co. 1s., or 1s. 1d. post free from the publisher, Hatton House, Great Queen Street, London, W.C. *The Amateur Gardener's Diary and Dictionary*, 1913. (Same publishers: price 1s., or in cloth, 1s. 6d.; post free, 1s. 2d. or 1s. 8d.)

MEDICAL AND SURGICAL APPLIANCES.

Anaesthesia-Finder.

DR. DAVID FORSYTH (London, W.) has designed the instrument shown in the sketch to facilitate the routine examination of cases of nervous disease. He writes: The anaesthesia-finder is for use in discovering and mapping out areas of cutaneous anaesthesia, hyperaesthesia, etc.—for the purpose, in fact, which, for want of anything better, a pin or a nib is usually made to serve. One end of the instrument (which is lightly made throughout) is

pointed but blunt for testing common sensation and provoking skin reflexes. The other end, expanded and smooth, is used like the head of a pin for hyperaesthesia; and, in addition, is serrated to carry a pledget of wool for detecting the finer shades of tactile changes. Either end serves, according to the case, for investigating pain and pressure sensations. The instrument has been made by Messrs. Down Bros., Limited, London.

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY REMEDIES.

ON December 12th the Chairman of the Committee (Sir Henry Norman) stated that the official analysis had been received from the Government Laboratory of the preparation which had been stated by Mr. J. C. Umney to be the subject of an incorrect analysis in *Secret Remedies*.

Mr. Umney, who was in the witness-box, stated that the Government analysis was not more accurate than that of Mr. Harrison; the ingredient alleged to have been absent was not mentioned in the Government analysis either, and certain ingredients that, in his opinion, were absent from the preparation were reported to be present. In reply to Mr. Glyn Jones, Mr. Umney stated that he knew of the ingredient which neither of the analyses disclosed from his own personal knowledge; he could taste and smell this particular ingredient. The committee-room having been cleared, Mr. Umney, with the consent of the proprietor of the remedy, informed the Committee of the name of the ingredient which he alleged the two analysts had not discovered. The Chairman said the statement would be submitted to the Government analyst.

Dr. Chapple questioned the witness with regard to the views of pharmacists as to the declaration on the label of the ingredients of proprietary medicines. He pointed out that 74 per cent. of the pharmaceutical associations throughout the country expressed the opinion that the declaration of ingredients on the label would injure the sale of proprietary articles; 70 per cent. of the associations were in favour of such a declaration being required, 24 per cent. answered in the negative, and 6 per cent. were doubtful. The witness expressed the opinion that if a vote were taken of the whole of the chemists in the country different results would be obtained. He did not agree that the inference was that the chemists would be willing to see proprietary articles suppressed, and would be able to supply cheaper and better articles in their place. He urged that a proprietary medicine manufactured on a big scale was more likely to be of uniform standard and quality than a medicine made up by different people all over the country.

Dr. Chapple mentioned various substances whose constituents were practically identical, but sold under various trade names at widely different prices. He suggested that it was unfair to chemists that it should be possible to deal with any particular substance in this way.

The witness stated that the manufacturer who popularized a particular drug under an invented name had to undertake considerable expenditure in order to bring the preparation to the notice of the medical profession, and he was entitled to his reward, although (witness admitted) he might get rather extravagant profits. He declared that the evil would cease when the medical profession prescribed drugs by their chemical names.

Dr. Chapple: You admit it is an evil?

Mr. Umney: It is an evil for which the medical profession is responsible. Sufficient time is not devoted in the curriculum of medical students to the study of the chemical action of drugs.

Questioned as to medicated wines, the witness denied that these preparations masqueraded as temperance beverages. He considered that the fact that it was called a wine was sufficient to indicate to the public that the preparation contained alcohol.

Mr. Edward James Hall, proprietor of Hall's Wine, gave evidence with regard to this class of proprietary article. He stated that Hall's Wine had been on the market upwards of twenty-five years. The original formula was the work of a medical man, and a meat extract which it now contained was added to the original ingredients on the advice of another medical man. The company claimed that a large part of its business arose apart from advertising, through the recommendations of doctors. In its announcements the company constantly indicated that individual medical men recommended the preparation, but it did not publish any names.

The Chairman: Do you publish these statements with the doctors' permission?

The Witness: The testimonials are sent to us in the ordinary way without any qualifications. He added that a large number of doctors were shareholders in the company. No case had ever been brought to his notice of people suffering as the result of taking Hall's Wine. The witness handed in to the Committee a number of original testimonials received from medical men.

The Committee adjourned.

ANNUAL REPORT OF THE MEDICAL OFFICER TO THE LOCAL GOVERNMENT BOARD.

(Continued from page 1674.)

THE appendices contain much information of interest to the general practitioner. Dr. Reece, one of the medical inspectors, contributes a detailed account of the epidemic of anterior poliomyelitis in Devon and Cornwall. The isolation hospital accommodation provided by one local authority has been honoured by a photograph which we hope is unique. It shows empty rooms, and in one of them water stands several inches deep. Dr. Mervyn Gordon contributes a useful summary of our present knowledge of the etiology, histology, and immunity of poliomyelitis, with some good illustrations of the histology, whilst Dr. Hugh A. Macewen summarizes our clinical and epidemiological knowledge.

SPECIAL SCIENTIFIC INVESTIGATIONS.

Arterial Degeneration.

Dr. Andrewes contributes a report on this subject which affords within the space of about fifty pages a complete summary of our present knowledge, together with the results of his own work. It is excellent in every way, and can be recommended to all practitioners as the best extant exposition of the subject from the standpoint of pathology and etiology. After a description of the function and anatomy of arteries he discusses the life-history of normal arteries. The chief changes up to the age of 30 to 35 are in the intima thickening with splitting of the internal elastic lamina and the development of a band of longitudinal muscle fibres. In the media the elastic tissue increases up to the age of 35. After a further period of about ten years the degenerative changes commence. After a detailed review of the histological lesions and a new pathological classification, Dr. Andrewes gives a general classification based on both pathological and clinical data. This is briefly as follows. There are four groups:

(1) *Senile* form. This is characterized by a sclerosis of the *media* in the large and the small arteries commencing as a fatty degeneration and atrophy of the muscle cells and elastic fibres, which are succeeded by a replacement fibrosis and calcification. There is often, in addition, a thickening of the intima with hyperplasia of the elastic elements. It is practically identical with Mönkeberg's sclerosis. The intimal changes are, in typical cases, slight. The nodular form of arterio-sclerosis may coexist as an accidental feature, but is no essential part of the picture.

(2) *Diffuse sclerosis*, due to abnormal stress, is found in local arteries where there has been much extra work, as in the involuting uterine arteries, in athletes and labourers, in chronic renal disease, and possibly in hyperpiesis (Allbutt). The "finished article" is almost identical with the senile form, but in early cases there is a slight difference—a more marked increase in the elastic elements of the intima.

(3) *Nodular arterio-sclerosis.* This is the form which exhibits patches of atheroma. It is classed as a special form because it is often absent in the senile and high tension cases; it does not always coincide with the situation of the greatest stress, and it may occur in juvenile cases, where in some cases it strongly suggests local infection. It is most common in the aorta and the large vessels. The essential lesion is a degeneration (fatty, fibrous, and calcareous) of what was at first a hyperplastic thickening of the intima. It is most marked in the deeper layers of the intima, but is often surmounted by a fibrous growth which overshadows the essential lesion. When the nodules are confluent there is produced the condition which has been named "arteritis deformans."

(4) *Syphilis* gives rise to an endarteritis in the small arteries in the neighbourhood of gummata, and in the cerebral arteries, even in the absence of definite gummata. It also produces a *mesarteritis* in the aorta and large

vessels, which consists of infiltrations of lymphocytes and plasma cells along the vasa vasorum, while the elastic elements perish and are replaced by fibrous tissue. In this lesion the spirochaetes have been demonstrated. In discussing the causation there is a short review of the two main theories of arterio-sclerosis—the inflammatory theory of Virchow and the compensation theory of Thoma. It is shown how both theories explain some forms of the disease, whilst neither throws much light on the common form. Advancing age is one of the commonest causes of arterial degeneration, but there are great differences in different individuals. That these differences are in any degree hereditary is only an impression, and not based on scientific evidence. Mechanical strain is an important factor. The view that athleticism tends to early arterial decay is another example of personal impression rather than of evidence. The experimental evidence is stronger, as, quite apart from the adrenalin experiments, artificial production of local high blood pressure has been shown to be capable of producing arterio-sclerosis. Temporary rises, often repeated, seem to be able to produce the change.

Blood Pressure and Renal Disease.—With regard to the relationship between blood pressure and renal disease, Dr. Andrewes adopts Gaskell's views based on German work. Toxic causes are discussed. The theory that the high tension is due to suprarenal activity is discarded as lacking confirmation. Tobacco is regarded as "not proven," but under suspicion to a certain degree. Alcohol is also discredited as a cause of sclerosis, whilst the effects of lead and uric acid are not quite understood. Microbic toxins are certainly capable of causing the changes found in arteries, especially the toxin of diphtheria. Infections of the arterial wall as opposed to toxaemia is most important. Syphilis is a certain example in the case of the mesarteritis it produces. In all acute infections, whether in young or old, there are found almost constantly patches of fatty degeneration of the intima.

Acute inflammatory foci in the media have been found in typhoid fever by American investigators, and the author relates a case of septicaemia where he found inflammatory foci extending along the vasa vasorum into the media. There are some excellent plates to this article.

Epidemic Diarrhoea and Flies.

Dr. C. J. Lewis, of Birmingham, and Dr. Moore Alexander, of Liverpool, report on the frequency of "non-lactose-fermenting and non-liquefying" bacilli in the faeces of children in health and in epidemic diarrhoea. The following table gives the results:

	Healthy Children.		Diarrhoea Cases.	
	Non-lactose Fermenters.	Morgan (No. 1) Bacillus.	Non-lactose Fermenters.	Morgan (No. 1) Bacillus.
Lewis ...	38%	17%	95%	72%
Alexander	49%	5%	56%	15%

It will be noticed that the results in Liverpool were different from those in Birmingham. There is no obvious explanation. Lewis found Morgan's bacillus in nearly all (12). The Birmingham results appear to implicate a bacillus belonging to the group known as Morgan's No. 1 bacillus. The agglutination experiments did not give very definite results, and it was found when the agglutination with an immune serum was used as the test for a strain that under the heading of Morgan's bacillus there must be more than one strain with the same fermentation reactions. Alexander also found the bacillus of dysentery and the paratyphoid bacillus in some of his cases. In fatal cases (13) Graham Smith has studied the same type of organisms in the fly. He has shown that non-lactose fermenters are quite commonly found in the intestine of the fly, that they are more common in August and the early part of September, that Morgan's bacillus is also found, and that it is nine times as common in flies taken from houses infected with diarrhoea as in flies from non-infected houses.

The possibility of pathogenic organisms being taken up by the larva and then, after metamorphosis, being distributed by the fly, has also been investigated by Dr. Graham Smith. It was found that under these conditions *Bacillus enteritidis* and a sporeless form of anthrax perished during metamorphosis, but that non-lactose fermenters and anthrax spores could survive, and therefore render the fly dangerous to man. Morgan's bacillus can certainly survive, but *Bacillus typhosus* very rarely.

British Rat-fleas.

A contribution to this subject by Mr. C. Strickland and Mr. G. Merriman is highly technical, although of great importance. After a prolonged research the authors summarize the results: Only two species of fleas were at all common, although fifteen other rare species were found. These common kinds are the *Ceratophyllus fasciatus* and *Ctenophthalmus agyrtes*. The former has been shown to be capable of spreading plague in India under the conditions which obtain there. The latter does not bite man. The flea incidence shows definite seasonal variations. No correlation could be found between the sporadic cases of rat plague and the average number of *C. fasciatus* per rat.

Purification of Chalk Waters.

In the purification of chalk waters by the Porter-Clark softening process the calcium is precipitated by the addition of lime water and then filtered. It was shown that a moderate infection was totally removed, even when the filters were new and not coated with precipitate.

Preparation of Calf Lymph.

Dr. Blaxall, as a result of experiments with various substances, has found that treatment of glycerinated lymph with 0.1 per cent. of oil of cloves destroys the extraneous organisms without impairing the specific properties of the lymph.

LITERARY NOTES.

MESSRS. J. AND A. CHURCHILL will publish immediately a new work by Dr. F. J. Smith, physician to the London Hospital, entitled *Law for Medical Men*. The book contains extracts from Acts of Parliament especially applying to them.

The forthcoming January number of *Bedrock*, completing the first year of its publication, will contain among other articles The Warfare Against Tuberculosis, by Professor Metchnikoff, translated by Sir E. Ray Lankester; The Milk Problem, by Dr. Eric Pritchard; and Science and Spiritualism, by Sir Bryan Donkin.

The Syndics of the Cambridge University Press announce that they have recently taken over the publication of *The Biochemical Journal*, which has now become the property of and the official organ of the Biochemical Society. Further particulars of the society may be obtained from the honorary secretary, Mr. R. H. Plimmer, University College, London, W.C. The *Journal*, which will be issued from six to eight times a year, will be under the editorship of W. M. Bayliss, D.Sc., F.R.S., University Professor of General Physiology, University College, London, and Arthur Harden, D.Sc., F.R.S., University Professor of Biochemistry, Lister Institute, London. Inquiries concerning details of publication and all questions concerning subscriptions should be addressed to C. F. Clay, Cambridge University Press, Fetter Lane, E.C.

The latest issue of the yearly publication known as *The Saga Book of the Viking Club*, Part II, vol. vii, which appeared quite recently, is chiefly remarkable for showing the close intercourse which existed during the Viking period between Anglo-Saxon England and Scandinavia. The modern reader may sometimes be tempted to think that this intercourse consisted for the most part of murder and rapine on the one side and a dogged resistance on the other; but there seems little doubt that the Norse invaders found in this country something that was of far more importance to them than the booty they carried off from its shores. The conquered nation had still enough vitality to impose its civilization upon its savage conquerors, and an article by Dr. Alexander Buggo on the "Costumes, Jewels, and Furniture in Viking Times" shows us how eagerly the rough Northmen adopted the more polished customs of their vanquished foes, whilst the enormous influence exercised by the Anglo-Saxon Church over the spirit of Scandinavian Christianity is proved by the Rev. A. V. Storm in his account of the "Early English Influence on the Danish Church." Other items of interest

in the present number of the *Saga Book* include a short account of William Herbert's Scandinavian poetry by Mr. W. F. Kirby, and the second part of Dr. Harry Tett's most interesting article on "Miniatures from Icelandic Manuscripts," a number of which are reproduced.

Dr. Vilhelm Maar, lecturer on the history of medicine, to whom we owe the definitive edition of the scientific works of Nicolaus Stensen (better known to anatomists as Steno), has (we learn from *Paris Médical*) recently published the autobiography of J. B. Winslow, the anatomist. The original manuscript is lost, and the only copy known to be in existence is in the Mazarin Library, Paris. In a recent issue of the *Bulletin de la Société Française de la Médecine* Dr. J. W. S. Johnsson, of Copenhagen, has lately given an account of French physicians who practised in Denmark and Danish doctors who studied or practised in France. Among the latter Stensen and Winslow are conspicuous. Jakob Benignus Winslöv was born at Odense, on the Island of Fyen, in 1669; through his mother he was related to Stensen. He first studied theology at the University of Copenhagen, but suddenly turned his attention to medicine. He was prosector of anatomy for a time, and having secured a bursary for foreign study in 1697 he went to the Low Countries, where he worked under Bidloo, Ruysch, and others. In 1698 he proceeded to Paris, where he continued his anatomical and surgical studies, and in 1704 took the degree of Doctor of Medicine. Like Stensen he became a Roman Catholic, chiefly it would appear owing to the influence of Bossuet, so that he might have said, like Gibbon, that he fell by a noble hand. At this point the autobiography ends. Winslow died in 1760, when he had nearly completed his 91st year. His epitaph in the cloister of Saint-Etienne du Mont states in addition to his scientific distinction that he "Vir aeque verax et pius, in pauperes summe misericors nullaque erroris aut vitii pravitate afflatus."

Gustave Flaubert was the son of a famous surgeon of Rouen who was the first—or one of the first—to resect the upper jaw. It has often been said that Gustave himself began the study of medicine and in particular dissected under the supervision of his father. Sainte-Beuve, Taine, and Jules Lemaître all state this, and it has passed as a fact into literary history. But it would seem to be only a legend; at any rate, there is no documentary evidence in support of the statement. This has recently been pointed out by M. Descharmes in an article which appeared in the *Mercure de France* of September 1st. He points out that there is nothing in Flaubert's writings which shows that he had any special knowledge of medicine. When he had occasion to introduce allusions to medical matters he sought counsel of professional friends. Before writing the pages of the *Education Sentimentale*, in which there is an account of a child in the throes of diphtheria, he availed himself of an opportunity of being present at a tracheotomy; but the operation produced such an effect on him that he had to avert his eyes. In his correspondence we find his lifelong friend, Louis Bouilhet, who had been a medical student, "coaching" him on medical points, as Hippolyte's club-foot, the festering sores of the blindmen, the poisoning of Emma, in *Madame Bovary*. There is proof in unpublished letters that without such help Flaubert would have blundered grievously. In painting the horrors of hunger and thirst in *Salammbo*, he is shown to have borrowed as freely from the *Naufrage de la Frégate la Méduse*, by Alexandre Corréard, an engineer, and Henry Savigny, a naval surgeon, as Byron, in *Don Juan*, did from records of a number of shipwrecks.

Our excellent contemporary *L'Hygiène* has always been noted for the extreme beauty of its numerous illustrations, and the October number is even more than usually rich in this respect. Dr. L. Landouzy, the present Dean of the Faculty of Medicine in Paris, who has contributed a short account of the valuable collection of pictures now in the possession of the Faculty, has greatly added to the interest of his article by reproducing a number of them, principally portraits, most of which are almost equally valuable from an artistic as from an historic standpoint. These portraits include those of two early deans—François Duport, who gained a certain fame as an amateur poet, and Michel Marescot, first physician and councillor to Henri IV; Gui Patin, the bitter defender of the privileges of the Faculty, and the author of the famous letters; Jean Hamon, the saintly Jansenist; Fagon, physician to Louis XIV; Jean-Baptiste Silva, whose fame even reached the ears and attracted the attention of the Empress Catharine of Russia; and Emilien-Francois Geoffroy, who spent several years in England, and was elected a member of the Royal Society; as well as those of Dupuytren, Laënnec, and Broussais. Two charming old prints of the ancient school of medicine are also included amongst the illustrations of this article, which contains some interesting details concerning the lives and careers of several of its most celebrated members. The same number of *L'Hygiène* contains an article by Dr. Orticoni on the hygiene of a modern army in the field; whilst Dr. "Horace Bianchon" writes on the latest theories of the eugenists, and Dr. Maurice de Fleury contributes the second part of his interesting series describing the various types of nervous disease.

The famous report on Animal Magnetism, a full translation of which was published in the JOURNAL of December 9th, 1911, and January 20th, 1912, was the means of bringing the career of Mesmer in Paris to an inglorious end. But he seems to have made an effort to brazen it out, for Benjamin Franklin in a letter dated "Passy, April 29th, 1785," and addressed to Dr. Ingenhousz, referred to the prophet of the magnetic "tub" as follows:

> Mesmer continues here and has still some adherents and some practice. It is surprising how much credulity still subsists in the world. I suppose all the physicians in France put together have not made as much money during the time he has been here as he has done. And we have now a fresh folly. A magnetizer pretends that he can by establishing what is called a rapport between any person and a somnambule, put it in the power of that person to direct the actions of the somnambule by a simple strong volition only, without speaking or making any signs; and many people daily flock to see this strange operation.

The report was dated August 11th, 1784. It may be remembered that Ingenhousz was one of Mesmer's first opponents. He was born in Holland in 1730 and came to London about 1767, where he met Sir John Pringle, through whom he became physician to the Empress Maria Theresa in 1772. It was at the desire of the Empress that he made an inquiry into animal magnetism. After remaining in Vienna a number of years, he travelled in France, Italy, and other countries, pursuing his scientific studies. At last he settled in London and was elected a Fellow of the Royal Society. He had a controversy with Edward Jenner. He died in 1799.

Surgeon-General George J. H. Evatt writes: The following circular is interesting as showing that in A.D. 1641 Bishop Williams claimed a certain inspecting power over medical men at this period.

> Bishop Williams, of Lincoln Diocese, who eventually became Archbishop of York, held a Diocesan Visitation in A.D. 1641. Before this Visitation began he sent round to every Rector or Vicar of a parish the following questions as part of the visitation routine:
>
> *Question:* How many Physicians, Chirurgeons, and Midwives have you in your Parish? How long have they used their several sciences, or offices, and by what authority, and how have they demeaned themselves therein? Of what skill are they accounted to be in their Profession?

Bishops continued to exercise the right of giving licences as late as 1785. The late Mr. Charles Williams published one or two of these licences in an article dealing with the barber-surgeons of Norwich. The licences issued by the various bishops probably did not greatly differ in terms, so that the following, given by the Bishop of Norwich in 1561, may be taken as a sample of such licences in general. It runs as follows:

> John by the sufferaunce of God Bishop of Norwich.
> To all the faithful flocke of Christ sendeth greeting. Whereas by the credible reports of dyvers worshipfull and honest men of the toune of Norwich one Thomas Bets hathe ben comended vnto vs for a perfight skilfull and practized man in the science of chirurgery, of whiche there commendacon as there certificate dothe testifie, to difficulte cuer of dyvers pacyentes hathe ben the cause withoute any favor or affection. Therefor knowinge howe necessarye a membre a practized chirurgeon is to the comon welthe, knowe ye that I the sayed Bishop do authorize and license the sayed Thomas Betts to use, practize, and followe the sayed art and science of chirurgery as well within the sayed Cittie of Norwich, and the lyberties of the same as elleswhere within a holie dioces of Norff and Suff. charging hym nevertheless so to use the same his vocacon as yt maye growe to the glory of God and bodelye health of the Quene's Maties lovinge subjects. In wytness hereof we have caused or seale to be putte thies p'sentes govan the xxjth day of March, in the yere of our Lord God, one thousand five hundredth threscore and one, and of or consecracon, the second yere.

British Medical Journal.

SATURDAY, DECEMBER 21st, 1912.

DISCOVERY OF A NEW TYPE OF FOSSIL MAN.

THE quiet meeting room of the Geological Society in Burlington House on the night of Wednesday, December 18th, was crowded, and wore the air of expectancy which characterizes the House of Commons on the eve of a revolutionary budget. Mr. Charles Dawson, F.S.A., F.G.S., a well-known amateur geologist, and Dr. Smith Woodward, F.R.S., Keeper of Geology at the Natural History Museum, South Kensington, and Secretary of the Geological Society, took the Chancellor's place, and the budget they produced was an account of what may in moderate terms be described as one of the most important discoveries of fossil man yet made—not only in England but in all the world. The account reveals to us a new species of human being, one which links modern man in some respects very closely to the anthropoid apes. The fossil remains of this individual were exhibited, and the worked flints found with them in the same stratum of gravel.

The actual remains discovered are fragments of a massive skull, with bony walls nearly half an inch thick; the fragments are sufficiently complete to give, when fitted together, a fairly accurate picture of the greater part of the brain-containing part of the skull; the face, and the greater part of the forehead, are missing, but fortunately half of the lower jaw, with the first and second molar teeth *in situ*, was recovered. The front part of the mandible, which carries the incisor, canine, and premolar teeth, is also missing—but there is enough to show that in the region of the chin the conformation was identical with that of anthropoid apes. Not a single bone of the limbs or trunk was found.

The cranial fragments are deeply stained and impregnated with iron; they are mineralized just to the same extent as the bones of fossil mammals found with them. These include the tooth of a Pliocene elephant; the molar cusp of a Mastodon, the teeth of a hippopotamus, the bones of a form of deer, of a fossil form of beaver, and of an extinct form of horse.

The same stratum also contains samples of those eoliths—the most primitive of flint forms ascribed to human workmanship—which occur so plentifully on the Kentish plateau, twenty miles to the north of the scene of the present discovery. The eoliths are stained the same tint as the fossil bones and as the human skull. In the same stratum were also found two highly-worked flints, of that type known as the Chellean, which occur abundantly in the 100-foot terrace of the Thames Valley. The two Chellean flints, however, are of a fawn colour, not stained deeply like the fossil bones and eoliths. The human skull shows no marks of having been rolled and worn, but the fossil bones of the Pliocene animals are rolled and worn. Hence the readers of the paper gave it as their opinion that the human fossil bones were not of the same age as the Pliocene animals, but belonged to the much later date indicated by the flints, namely, to the middle of the Pleistocene period — the date at present assigned to the Galley Hill man. This opinion, however, was combated; their critics claimed the same age for the human fossil bones as that ascribed to the animal bones found with the human skull. There was thus a sharp divergence of opinion as to the antiquity of the human remains; in the opinion of the finders and their supporters they are Middle Pleistocene; in the opinion of some of their critics they are Pliocene. However that may be, the characters of this very ancient individual are of a more primitive type than any yet found in Europe. Of all known human fossil forms Pithecanthropus alone is more primitive.

Leaving the question of antiquity still undecided, we shall now turn to the narrative of the actual discovery. The scene of this "find" lies some nine miles north of Lewes, in the valley of the Sussex Ouse, which, rising in the Weald, breaks through the South Downs at Lewes, and enters the sea at Newhaven. After flowing eastwards past Sheffield Park the Ouse bends southward. On the north bank, at the bend, about a mile from the river and on a flat field near Piltdown Common, in the parish of Fletching, situated 80 ft. above the level of the river, there is a superficial bed of gravel 4 ft. thick. It is in this bed of gravel that the fossil bones were found by Mr. Charles Dawson of Lewes, who is a solicitor, we believe, by profession, but a geologist by inclination, and has done much these twenty years past to enlarge our knowledge of the geology of Sussex.

The manner of their discovery is both interesting and instructive. Four years ago farm labourers were digging or deepening a duck pond on the gravel bed; they dug out a "thing like a cocoa-nut," and threw the splinters on the rubbish heap near by. It was from this rubbish heap that Mr. Dawson recovered the greater part of the skull, but the lower jaw was dug out of the undisturbed stratum at a later date by the authors of the communication at the Geological Society. One is tempted to ask, How many fossil men have passed away in rubbish heaps, unrescued? In this case there was fortunately a Mr. Charles Dawson at hand.

It is the characters of this new type of man which will chiefly interest medical men. Turning first to the most important feature of the skull—the size of the brain chamber—one notes that its size falls inside the lower range of modern mankind. The capacity is estimated by Dr. Smith Woodward to have been "1,070 cubic centimetres, but possibly a little more." The same author regards the skull as showing female characters; a cranial capacity of 1,000 to 1,200 is not uncommon in aboriginal Australian women; 1,080 c.cm. is given as the capacity of the Gibraltar skull, which certainly belongs to the Pleistocene period. A cast of the cranial cavity was taken and submitted to Professor Elliot Smith for examination and description. Unfortunately little more than the general shape can be accurately made out; the left occipital pole shows, as in modern man, a great preponderance over the pole of the right occipital lobe. The brain is flattened and bun-shaped — pithecoid — as in Neanderthal man. As is generally the case in Neanderthal man, the bones of the roof of the skull are enormously

thick—in this case they are nearly half an inch thick (10 to 12 mm.), but show absolutely no sign of inflammation or of pathological disturbance. The skull is of average human length, 190 mm., and very wide, 150 mm., the width (cephalic index) being 78 per cent. of the length. The greatest width is situated low down, near the ear passages; the sides of the skull slope upwards to the crown, thus giving the crown of the head a peculiarly retracted appearance—recalling the contracted form seen in some microcephalic idiots.

If the shape of the brain and the thickness of the skull recall the characters of Neanderthal man—who flourished in Europe long after the Chellean period, to which the authors ascribe the Sussex woman, had come to an end—the other features are totally unlike those of Neanderthal man and are similar to those of modern man. The Sussex species of humanity therefore appears to be a predecessor or ancestor of modern man, not of Neanderthal man. The mastoid processes, the form of the ear passage and of the tympanic plate, the occipital ridges and muscular markings, the glenoid cavity and articular eminence for the mandible, are all as in man of the present day, whereas in Neanderthal man all of these features are of the form or type seen in anthropoids. In the Sussex woman the disposition of the temporal lines shows that the muscles of mastication arising from these lines were small—smaller even than in modern human races. The external angular process of the frontal has been preserved; it is stout but not prominent. Unfortunately the brow ridges are broken away, but the authors, from the vertical conformation of the upper forehead, infer that they did not form the prominent overhanging supraorbital ridges which are seen in anthropoids and in Neanderthal man. The forehead appears to have been of the modern human type.

In the lower jaw there are present features hitherto only known to occur in apes and anthropoids. The chin is not only retreating, as in a dog, but its lower border is sharp and curved inwards to form a flange for the attachment of the digastric muscles. The myelo-hyoid ridge is not the clearly raised sharp line seen in all known human mandibles, and, as in anthropoids, it is scarcely indicated. It seems impossible to believe that an animal with its mandible so framed, with the muscles of the floor of the mouth acting exactly as in anthropoids, could have possessed the power of speech. Yet the third frontal gyrus of the brain shows a considerable development.

It has been already mentioned that the incisor, canine and premolar teeth, with the part of the mandible containing their sockets, are broken away. This is unfortunate, because the space for teeth left in front of the molars, two of which are present, is exactly equal to that occupied by the front teeth in a chimpanzee. The mandible is very like that of a chimpanzee. It seems therefore necessary to suppose that the canine teeth were, if not pointed and projecting above the other teeth, of a much greater size—as regards their diameters—than in modern man. The anthropoid conformation of the jaw also supports the opinion that the canine teeth must have been of large size. The molar teeth, however, are not massive; the second is larger than the first, and the third, now lost, was about the size of the second. They have five cusps each; the length of the crown of the second molar is 12 mm.; its width 11 mm. The molar teeth are similar in character to those of modern man; they are unlike the teeth of Neanderthal man.

ESSENTIAL CONDITIONS FOR MILK CONTROL.

On December 10th the President of the Local Government Board introduced a bill[1] to make better provision with respect to the sale of milk and the regulation of dairies in England and Wales. The bill provides for the registration of dairies, which term includes farms, cowsheds, or milkshops, and of dairymen; for the inspection of dairies, and the examination of cows; for the prevention of the sale of tuberculous milk, or of milk suspected of causing infectious disease; for the regulation of the importation of milk and for the establishment by local authorities of milk dépôts for the sale of milk specially prepared for infants. The Local Government Board is empowered to make Orders for the purpose of carrying the bill into effect with respect to a large number of matters connected with the production and distribution of milk, and such Orders, unlike the existing Regulations made under the Dairies, Cowsheds, and Milkshops Orders, will be applicable to the whole country, so that there will no longer be the scandal of a local authority composed to a large extent of interested persons refusing to regulate an industry in the public interests because it is feared that private interests will be interfered with.

The administration of the bill is left in the hands of the sanitary authorities, but, as regards rural districts and urban districts, if the council of the latter consents, the county councils are given concurrent powers with the district councils. County councils are also required to investigate the circumstances connected with a milk supply in a rural district suspected of causing infectious disease, and the provisions in this connexion, so far as they relate to England and Wales, in Section 4 of the Infectious Disease Prevention Act, 1890, are repealed. The prevention of the sale of milk from tuberculous cows is dealt with on the lines of what have come to be known as the model milk clauses, which have been incorporated in many local Acts. In the memorandum which prefaces the bill it is stated that the Board of Agriculture and Fisheries proposes to issue an Order under the Diseases of Animals Act, 1894, dealing with tuberculous cows, and providing for the payment of compensation in cases of slaughter by the local authority. When addressing a meeting of the National Farmers' Union recently, the President of the Board stated that he had persuaded the Treasury to make a grant for the purpose of this compensation, and that although he anticipated a large sum would be required in the first year or two, he believed it would be a diminishing amount, and eventually the burden on the Exchequer would be only a small one.

The administrative machinery provided by Mr Burns in his bill for dealing with tuberculous milk appears to be adequate for its purpose, and if the proposals of the Board of Agriculture and Fisheries as regards compensation for condemned animals are generous, even the dairy farmers themselves cannot take exception to it. It must not be forgotten, however, that the removal of tuberculous cows from dairy herds is not all that is required to render the milk supply in every way satisfactory. The reports of medical officers of health and of the medical inspectors of the Local Government Board have made us familiar with the most disgusting conditions associated with the production of milk. Cows whose

[1] The Milk and Dairies Bill. To be purchased either directly or through any bookseller from Wyman and Sons, Ltd., London H.M Stationery Office (Scottish Branch), Edinburgh, or E. Ponsonby Dublin. (Price 2½d.)

udders are caked with filth are milked in dirty sheds by men with unwashed hands. Huge accumulations of manure are to be found right up to the walls of unswept milking sheds, and through these masses of filth the cows have to trail on their way to be milked. Facilities for the cleansing of the milkers' hands and of utensils are often of the most meagre character, while the opportunities for accidental, though preventable, contamination of the milk from the cowshed to the consumer are many and serious. In order to secure improvement in these particulars, the Milk Bill provides for the inspection of dairies by the medical officer of health—a duty which is already imposed upon that official. We have no hesitation, however, in saying that the results of those inspections, and of the reports and recommendations which will be the outcome of them, will continue to be unsatisfactory, and for this reason: The medical officer of health is elected by, and may be dismissed at three months' notice by, the rural district council, the members of which in many instances are either themselves dairy farmers or their friends and neighbours. In a debate in the House of Commons as recently as June 5th last Mr. Burns, when defending the delay which had occurred in the introduction of the Milk Bill, stated that last year the London County Council, the metropolitan borough councils, and the Local Government Board had struck off the register no fewer than 1,144 milk shops out of a total of 9,000 because of the unsuitability of the premises for milk and dairy purposes. If that were done universally, he added, by all the local authorities, considerable advance would be made even under the existing limited power. It does not seem to have occurred to Mr. Burns that the officers who advised that these premises should no longer be on the register all have security of tenure of office against capricious dismissal. If it is necessary and right that they should have such security in localities where the weight of public opinion may be brought to bear, it is even more requisite that those officials who get little or no assistance from this source should have the same protection. For years past Royal Commissions and Committees have recommended that medical officers of health should not be removable from office except with the sanction of a central authority, and we have reason to know that the urgency of this reform has been impressed upon the Rural Housing Inquiry Committee, which is reporting to the Chancellor of the Exchequer, so that the Government is not ignorant of this necessity and importance. Opportunity was taken on the passing of the Housing, Town Planning, etc., Act, 1909, to give security of tenure to medical officers of health of county councils, who are far less likely to come into direct conflict with the owners of insanitary property, etc. If the Government has a real desire to improve the milk supply of the country, it will place medical officers of health of districts in a like unassailable position so long as they carry out their duties in a satisfactory manner.

THE APPEAL FOR THE MAINTENANCE OF UNITY.

THE State Sickness Insurance Committee, acting under the authority of the Council, has, on behalf of the British Medical Association, issued an earnest appeal for united action to the members of the profession who are not members of the British Medical Association, and the same appeal is made to every member of the British Medical Association. The full text of this appeal to the whole profession is reproduced at page 684 of the SUPPLEMENT this week. During the long and trying period which has elapsed since the Insurance Bill was first introduced the profession has maintained a remarkable solidarity and the result of that united action has been to cause the Government to make alterations in the terms and conditions of service of such a nature as in the opinion of a minority of the profession would justify it in consenting to work under the Act. The unity which has been so effectual in the past will be no less necessary in the future. The Council of the Association, therefore, appeals to every member of the Association to take no individual action in response to the recent proposals of the Government, but to await the decision of the Representative Meeting to be held this day, Saturday, December 21st. The members of the Representative Meeting have been quite recently in touch with the Divisions and have been instructed by the Divisions, and it would therefore be extremely unwise for individual members of the Association who have waited so long and fought so hard collectively now to act individually. The invitations to form panels which are now being issued to every practitioner by the various Insurance Committees, tell him that it is necessary that he should apply within a very short time, otherwise his name will not appear in the first list of doctors to be issued during the first week of January. It is hoped that members of the profession will decline to be hustled into any premature decision. Moreover, as we are reminded in the letter, 27,400 practitioners have signed an undertaking not to enter into any agreement except one satisfactory to the medical profession, and that even then not into an individual or separate agreement, but an agreement come to through the Local Medical Committee. The text of the undertaking, and of the pledge complementary to the undertaking, as well as the notice to the profession pointing out that it is imperative that no negotiations or arrangements of any kind, temporary or otherwise, should be entered into by any Division or Provisional Medical Committee, or by any individual member of the profession, with Local Insurance Committees, or otherwise, is printed on the first page of the SUPPLEMENT of this week. The Representative Meeting on Saturday will have before it all the material for a judgement; until then it behoves every man to leave the various documents sent out severely alone, and when the Representative Meeting has given its decision to follow that decision loyally and fearlessly, knowing full well that the best interests of the community and the best interests of the profession are one and the same.

MEDICAL SERVICE AND WORKMEN'S COMPENSATION.

PROFESSOR GLAISTER delivered at Glasgow University the eighth of a series of lectures arranged by the Glasgow School of Social Study and Training, taking for his subject medical service in relation to workmen's compensation. He discussed some details of the Act and the principles on which compensation was determined, pointing out that nowhere in the Act was the expression "accident" defined. In view of legal decisions that any defect or disease in a workman at the time of accident which might even directly contribute to or actually invite the accident was no bar to compensation, the question had become acute whether employees before engagement and periodically during employment should not be medically examined as to their fitness. Professor Glaister stated that the number of employers under the Act in 1909 was 117,391; in 1910, 134,820; and in 1911, 139,884. The number of employees in round numbers was respectively 6,570,000, 7,025,000, and 7,305,000. The fatal accidents numbered 3,341 in 1909, 3,510 in 1910, and 4,021 in 1911. The amount paid in each fatal case was fairly equal in these years, and averaged £154. The number of disabling accidents

in those years was 332,000, 378,000, and 419,000; the average compensation paid in each case was for each year £5 6s., £5 14s., and £5 16s. The number of medical referees in England and Wales had fallen from 223 in 1909 to 215 in 1911, in Scotland had increased from 82 to 86, and in Ireland from 45 to 46. Increased importance would seem to be attached by the legal advisers of injured workmen to the presence of a medical assessor with the judge at the hearing of evidence in arbitrations if they might judge from figures. In England in 1909 the number of times a medical referee sat as assessor was 240, in 1911 that figure had risen to 664; in Scotland the corresponding figures were 78 and 246, whereas in Ireland the rise had been very small—namely, from 57 to 66.

AURICULAR FLUTTER.

THE persistent search into the nature of the heart's action in the human subject is steadily revealing the true nature of conditions which have hitherto been looked upon as so obscure as to defy solution. The far-reaching effect of the discovery of auricular fibrillation, and its bearing on heart failure and on treatment, has been repeatedly described in these pages. Quite recently an allied condition has been recognized and described, which supplies the interpretation of the nature of many forms of persistent and paroxysmal tachycardias. In 1887 MacWilliam stated that in applying a faradic current to the auricles they were stimulated to a series of very rapid contractions, to which he applied the name of "flutter." The ventricles did not respond to every auricular beat, but their rate was nevertheless much increased, often responding to one half of the auricular beats. The term "auricular flutter" was adopted by Ritchie and Jolly in 1910 to describe a case in which the auricle was beating at a rate of about 500 a minute. In two separate papers just published by Lewis[1] and Ritchie[2] a very full account is given of a number of cases, and it now seems that the condition is far more common than had hitherto been suspected. The recognition of this condition can occasionally be made out by the rapid pulsation of the jugular veins due to the contraction of the right auricle, but in the majority of cases the auricular contractions fail to cause a movement in the veins. The introduction of the electrocardiograph has placed in our hands the means of recognizing this condition, and both the authors just mentioned demonstrate auricular flutter by means of this instrument in a clear and convincing manner. With this instrument to guide them, they are able to describe the kind of case in which auricular flutter occurs, so that in many instances it will be possible to recognize its presence by the ordinary means of examination. The chief characters are to be found in the variation of rate and rhythm of the ventricle or radial pulse. In some there is a persistent increase in rate to 150 a minute, the ventricle in such cases responding to every alternate auricular beat. The rate may be slower than this and irregular, but under any form of strain, as excitement, the rate tends easily to increase. In some cases the ventricle may respond to every auricular beat, and the pulse may then attain a rate of 300 a minute. When this happens the output of the ventricle is so small that the individual may lose consciousness. In both papers there are interesting and important suggestions as to treatment, and the effect of the digitalis group of remedies upon this condition is very remarkable. In some cases, for instance, digitalis given in sufficient quantities sets up fibrillation of the auricles in place of the flutter, and when the drug is stopped the fibrillation passes off and the normal rhythm is taken up. Both authors are to be congratulated on having made a valuable contribution to clinical medicine.

[1] *Heart*, vol. iv.
[2] *Edinburgh Medical Journal.*

ANEURYSM OF THE UTERINE ARTERY.

ANEURYSM of the uterine artery is extremely rare, but is an occasional cause of haemorrhage persisting after labour. In the case reported by Graily Hewitt in 1867 the patient received an injury on the fourth day from her husband, who came home drunk and knelt on her abdomen. Hemorrhages set in, and she died on the thirty-seventh day. Five other cases of uterine aneurysm have been collected by Dr. Huron W. Lawson of Washington,[1] and he adds a very instructive instance of *post-partum* flooding from rupture of an aneurysm in his own experience. Küstner reported a case in which the bleeding was ascribed to atony of the uterus until the aneurysm was discovered at the autopsy. Mars and Vogelsänger record cases in which flooding in the puerperium was due to uterine aneurysm. Reymond's case of aneurysm was not puerperal. Uterine haemorrhages began after the menopause and malignant disease was expected, but on exploration a circumscribed pulsating sac was detected in the right fornix. Abdominal section was performed, and an aneurysm of the right uterine artery exposed and dissected out; all haemorrhages ceased. Mundé's case was also non-puerperal. An abscess developed after the repair of a lacerated cervix. The collection of pus, which pointed in the left fornix and communicated with the cervical canal, was laid open. Two years later the patient suffered from throbbing in the left inguinal region. Aneurysm of the left uterine artery was diagnosed and exposed by abdominal section. The internal iliac was ligatured, and electrolysis subsequently practised as an extra precaution, with good results. Huron Lawson's patient underwent trachelorrhaphy ten weeks after a miscarriage in March, 1909. There was much haemorrhage when the scar tissue was resected, as the laceration was very old, and the patient had been fifteen times pregnant. It ceased, however, when the sutures were tied. In June she again became pregnant, and a live child was born spontaneously in March, 1910. On the fourth day the patient complained of pelvic pains running down the left thigh, and said that she had felt such pains occasionally from December, 1909. On the next day severe haemorrhage occurred; a tampon was passed into the vagina, and the patient sent into a hospital. The gauze was expelled on the day after admission during a fit of coughing. Violent haemorrhage ensued, and the uterine cavity was packed. A day later the bleeding returned, and the patient died on the seventh day of the puerperium. A small fibroid was detected in the anterior uterine wall, and an aneurysmal sac over one inch in diameter lay continuous with the left uterine artery, and opened into the uterine cavity. The sac was a false aneurysm, apparently due to injury of the artery during the operation for repair of the cervix one year previously.

[1] Aneurysm of the Uterine Artery. *Amer. Journ. Obstetrics*, vol. lxvi, November, 1912, p. 732.

THE WORSHIP OF HEALTH.

THERE is much talk of degeneration nowadays, and one of the many well-meant endeavours made to check our alleged downward tendency is constant talk about health. It is most desirable, of course, that hygiene should be taught in schools, and that grown-up people should as far as possible be shown the way of sanitary salvation. But it may be doubted whether popular teaching on these subjects does all the good that ardent reformers expect from it, and it is unquestionable that it is attended with certain disadvantages. Apart from inevitable differences of opinion which tend to breed confusi n, the stress laid on health as an end in itself is, we think, not altogether wholesome. It leads to the shirking of the risks without which much work essential to the welfare of the community cannot be done; and it tends to the production of a race of valetudinarians. It is not men who were always taking thought for their life what they

should eat, and for their body what they should put on, whose names stand out in our rough island story. In reading the history of the Napoleonic wars one cannot but be struck by the endurance of the soldiers who fought in a dozen campaigns, bearing privation and taking half a dozen wounds as all in the day's work. It was such men as these who made our empire. Are we, then, degenerating? Physically, of course, we are larger and perhaps stronger than the fighting men of the days of chivalry; an average guardsman of to-day cannot buckle on the armour of the mediaeval knight, and this, we believe, holds good of other countries. But have we the hardihood, the *certaminis gaudium*, of the fighters of old? Anaesthetics have made us less willing to suffer even trivial pain; we shudder when we read Bell's description of the hospitals at Brussels after Waterloo, where the wounded under the knife were complimented on their "singing" by others awaiting their turn. We think it undeniable, too, that we have become more alive to the manifold dangers which surround us. Bacteriology has revealed the legions of invisible foes that ever threaten our health and life. The fear of the microbe now haunts the minds of many till it becomes an obsession. Such terrors are, as it were, the shadows cast by advancing science. But there are some who profess to believe that it is all the fault of the medical profession. A modern writer, M. Deschamps, says that the apotheosis of the doctor is a sign of national decadence. This recalls the vaticinations of Cato the Censor, who foretold that if Greek medicine once got a footing in Rome the end was not far off. Montaigne, who professed contempt for doctors, said: "There is no nation but hath continued many ages without physicke; yea the first ages which is as much to say, the best and most happy: and the tenth part of the world hath as yet no use of it. Infinite nations know it not; where they live both more healthie and much longer than we doe; yea and amongst us the common sort live happily without it." He evidently held the ignorant belief, which was afterwards made the basis of Rousseau's revolutionary teaching, that the people of the "first ages" were free from disease and vice. We know the "noble savage" better now, and we know that during his life, brief as it generally was, he was under the sway of medicine men, and his skull often bears the mark of a rude surgery. Doctors, so far from encouraging constant self-torment about the state of the stomach, the liver, the intestine, the pulse, and so on, are constantly exhorting nervous people not to worry about such things. As regards themselves, they take, to use the phrase of the late King of Italy, the "risks of the trade." No class of men hold their lives more cheap in the discharge of their duty. It is not the doctors, but the faddists and the quacks, who are the cause of the unhealthy worship of health which is one of the characteristics of the time.

THE DIAGNOSIS OF GASTRIC CANCER.

THE estimation of the amount of dissolved albumen in the stomach contents has been more than once suggested as a means of determining the extent in any given case of gastric digestion, but the practical difficulty has been to find a sufficiently accurate method. This has been overcome by Dr. W. Wolff, Physician to the Augusta Hospital in Berlin, and Dr. P. Junghans, Assistant Physician to the same hospital.[1] They use a solution made according to the following formula: Phosphotungstic acid 30 cg.; pure hydrochloric acid 1 gram; alcohol 20 grams; distilled water up to 200 grams. The gastric contents after an Ewald test breakfast are removed in the ordinary way, filtered and distributed in a series of six test tubes. In the first they place 1 part of gastric juice to 10 parts of distilled water; in the second, 0.5 to 10; in the third, 0.25 to 10; in the fourth, 0.1 to 10; in the fifth, 0.05 to 10; and in the sixth, 0.025 to 10. Then to each tube is added 1 c.cm. of the reagent. The amount of albumen is determined by the degree of dilution in which the presence of albumen is shown by a cloudy disc; if, for example, the first four tubes show an albuminous disc, while this is absent in the fifth tube, the amount of albumen is called 200, the degree of dilution being for the fifth tube 1 in 200. If the disc is absent only in the sixth test, the amount of albumen is 400. In simple achylia gastrica the amount of albumen was minimal, but where the achylia was associated with cancer of the stomach the quantity of dissolved albumen was distinctly high. Thus in 8 cases of clinically obvious gastric cancer the dissolved albumen was twice 200, once 400, and five times more than 400, so that the presence of a large amount of albumen points to the presence of cancer. These observations have been confirmed by Dr. K. Thiele working at the Augusta Hospital in Professor Ewald's wards. He examined 15 cases of simple achylia and 12 cases of unquestionable cancer of the stomach. In the former group the amount of albumen varied between 30 and 40; in 1 case it was 10; in 2, 20; in 10, 40; in 1, 60; and in 1, 100. In the last the *post-mortem* examination showed that there was no cancer in the stomach, but that the gall bladder was affected by cancer. In the second series the amount of albumen was on the average 200, and in only 2 cases was it as low as 100; in both the cancer being in the early stages, so that Thiele concludes that quantities below 60 indicate simple achylia; from 200 to 400 point to cancer. At 100 the question is doubtful, but the probability is in favour of cancer. Similar confirmation comes from Dr. Einstein, who has worked in the wards of Professor H. Strauss in the Berlin Jewish Hospital. Einstein, however, thinks it important to note the period at which the appearance in the test tubes is noted, as he finds that the appearances vary according to the time at which they are seen, and he suggests that in order to get comparable results the tube should be examined one hour after the addition of the reagent. He also attaches importance to the gastric juice being dealt with immediately it is withdrawn, so as to prevent any fallacy from putrefactive or other changes. He has only met with one case of cancer of the stomach in which the figure was as low as 100, but he has found this figure in certain cases of simple achylia, and he would therefore state his conclusion thus: In cases of apepsia, where the gastric juice contains albumen above 100, the indication is rather in favour of the cancerous nature of the stomach affection.

[1] *Berl. klin. Woch.*, May 29th, 1911; quoted in the *Semaine médicale*.

TREATMENT OF SURGICAL TUBERCULOSIS.

THE practice of injecting antiseptic and antituberculous substances into abscesses and sinuses in cases of surgical tuberculosis has been less followed in this country than it has been in France, notably by Calot. These substances have been many, but may be divided into two classes—those that have a sclerosing effect, and those that are expected to cause liquefaction of the tuberculous material. Iodoform, creosote, camphor, and thymol are the substances, alone or in combination, that have been most used, and the best results have followed on the use of those that most favoured liquefaction. Some of these injections, however, have produced dangerous and even fatal results. In a thesis[1] presented to the Faculty of Medicine of Paris, Dr. Jacques Tribes advocates the use of an aromatic oil which is known by the trade name of "gomenol." This drug is closely allied to cajeput oil, and is obtained by distillation from the young leaves of the *Melaleuca viridiflora*, a New Caledonian tree which belongs to the Myrtaceae. It has a high antiseptic value, and chemically approaches the composition of terpinol. Dr. Tribes has noted the effects of gomenol in 187 cases;

[1] *Contributions a l'étude du traitement des tuberculoses externes par les injections modificatrices. Les injections d'huile gomenolée.* Paris: A. Maloine. 1912. (Roy. 8vo, pp. 82, figs. 12. Fr. 2.)

30 were chronic, such as Pott's disease, and are as yet incomplete, and 13 did not attend regularly; in the remaining 147 cases 25 open lesions were cured; of 122 cases of tuberculous lesions without wound 96 were cured without the formation of fistulae; in 13 temporary fistulae were formed, but healed quickly; in 10 fistulae formed with tuberculization of the skin, but ended with the formation of movable cicatrices. Three patients died from tuberculous meningitis during treatment. A solution of 20 per cent. in olive oil was used, and of this from 1 to 2 c.cm. is a dose. In this strength and dose it appeared to be free from danger and painless. A slight experience of the drug in this country is distinctly favourable, and we are inclined to accept Dr. Tribes's conclusion that gomenol is safe and effective. It certainly seems worthy of extended trial in this country.

THE PERILS OF PANHYSTERECTOMY.

THE radical surgery of the uterus is one of the most remarkable features of gynaecology. Thirty years ago few operators removed large fibroids. Now the extirpation of the cancerous uterus with free dissecting away of the vagina below, the parametrium around, and the glands above it, is practised universally. Fibromyoma, or "fibroid," a non-malignant disease, is often treated by the radical operation (panhysterectomy). The older supravaginal or "subtotal" method, though it finds little favour with the younger school of gynaecologists, has its advantages. The cervix makes a good floor for the pelvic viscera, and when one or both ovaries can be preserved, the presence of uterine mucosa appears to aid in the object for which ovarian tissue is saved by the operator, the avoidance of a sudden menopause. More than one British operator has set forth the advantages of preservation of the cervix. On the other hand, just as Wertheim's radical operation for uterine cancer is sometimes followed by severe symptoms due to damage to the bladder and other adjacent structures, so panhysterectomy may entail bad consequences. A big hernial pouch may develop, pressing down the vagina and appearing at the vulva. M. Xavier Bender[1] reports an instance of far graver complication. A woman underwent removal of the vermiform appendix and the opposite or left uterine appendages in 1899. In May, 1908, she was operated upon for fibromyoma, and panhysterectomy was performed. In both instances a distinguished member of the staff of a great hospital operated. The first surgical proceeding caused adhesions and other complications, which rendered the second very difficult. A large incisional hernia developed, and lastly, sixteen months after the panhysterectomy, septic symptoms appeared with great abdominal pain, which was found to be due to extensive gangrene of the vaginal vault and neighbouring tissues. Haemorrhage set in, and an iodoform plug was applied. When the bleeding ceased abdominal section was performed. Though the tampon had been inserted with the usual care, a strip of gauze had been pushed through the friable sloughy tissues into the peritoneal cavity. There were strong intimate intestinal adhesions, which were separated, without, however, any damage to the walls of the bowel nor to the bladder. A big rubber drain was inserted into the vagina and the large hole which had formed in the sloughy tissue, but the patient died of septicaemia within a few hours. After-histories of radical operations of this kind ought always to be reported, as was done in this instance.

"HOUSES OF SUCCOUR" IN MADRID.

IN a recent issue of the *Revista de los Hospitales*, Dr. Miguel Becerro de Bengoa gives an interesting account of the arrangements in Madrid for the succour and treatment of accidents and urgent cases of illness or injury. The Spanish capital, he says, is for this purpose divided into nine districts, each with its own separate organization and officials. In each of these districts there are two *casas de socorro*. Thus, in the whole city there are, in addition to the ten State hospitals, eighteen well-appointed ambulance stations. Each of these consists of a consulting-room, a small operating-room for urgent operations, an operating theatre, two bedrooms (one for the doctor on duty and another for his assistant), a place where clothes or other articles left by patients may be stored, and an apartment furnished with a *silla fuerte*, or strong chair, for the restraint of violent drunkards or lunatics until they can be removed to a suitable asylum or prison. In addition to their main function, which is, of course, the treatment of accidents or urgent cases, these houses of succour have another almost equally important. Gratuitous advice and treatment are given to the poor of the district, who resort to the stations in large numbers at the hours fixed for the particular class of diseases (eye and ear, nose and throat, and so on). Finally, with each station is associated a number of practitioners, who visit at their own homes such patients as are assigned to them with the necessary certificate of poverty. The *personnel* attached to each of these eighteen *casas de socorro* is as follows: A medical director, who presides over the whole; four *medicos de seccion*, who make the home visits; six *medicos de guardia*, who are on duty in alternate pairs in each twenty-four hours. These last are relieved for two hours each day, one (of the two on duty) from 12 to 2, and the other from 2 to 4. To replace these, there are twelve supernumerary doctors, who are on duty in turn from 12 to 4 p.m. In this way it is arranged that each *guardia* is on duty for four hours at a time, and each of the supernumeraries each twelfth day. There is also an obstetric physician to attend to the poor of the district. Lastly, this abundant staff is supplemented by a *practicante* (a senior student or lower rank of practitioner) and two nurses or attendants. Naturally, with an organization like this, with, at every moment of the day and night thirty-six doctors, eighteen *practicantes*, and thirty-six nurses, engaged exclusively to attend to urgent cases and accidents, whether among the poor or the rich, we may consider the public of Madrid to be well looked after in this respect. It should be added that the Red Cross Society has an admirably managed organization in Madrid, and has five stations in different parts of the city, where many cases are seen daily by medical men appointed for the purpose.

POST-GRADUATE INSTRUCTION IN CANCER.

THE success abroad, especially in Germany, that has attended the efforts towards the earlier diagnosis of cancer, in order more successfully to apply operative treatment, has induced the medical staff of the Cancer Hospital, Brompton, to institute a series of clinical lectures on the diagnosis and treatment of various forms of malignant disease. At the present time the advanced operations on cancer have brought within the limits of operability cases that a few years ago would have been rejected as hopeless, but it must be granted that the appreciation of the results is not so widespread as it might be. It is becoming more and more apparent that so-called early cases demand as advanced an operative treatment as those seen relatively late; the earlier the diagnosis the more hopeful the result. Statistics of operations vary considerably, but it has been calculated, in the case of cancer of the uterus, for example, that approximately 40 per cent. of the cases seen are curable, using the convention of a five years' limit after operation. Such a figure can certainly be improved upon if earlier diagnosis were established. The Cancer Hospital has resolved to place its wealth of material at the service of practitioners and senior students. The members of the surgical staff, in conjunction with the pathologist, will demonstrate cancer in various

[1] *Bulletin de la Soc. d'Obstét. et de Gynéc. de Paris.* April, 1912, p. 257.

situations. The first lecture will be given by Mr. W. Ernest Miles on cancer of the rectum on January 22nd; and on each succeeding Wednesday similar subjects will be dealt with, such as tumours of the kidney (Mr. Swan), cancer of the tongue (Mr. Charles Ryall), cancer of the colon (Mr. Cunning), medical treatment of advanced cancer (Dr. T. J. Horder), inoperable cancer (Mr. Rowntree), cancer of the breast (Mr. Howell Evans), cancer of the uterus (Mr. Wilson), radium treatment of cancer (Dr. Knox), and the laboratory diagnosis of cancer (Mr. Leitch). The demonstrations will be given at 5 o'clock, an hour chosen as suitable to the majority of practitioners who may wish to avail themselves of the opportunities thus freely placed at their disposal.

THE ROYAL SOCIETY OF MEDICINE.

IN order to give members of the profession an opportunity of visiting the society's new house, the council gave a series of four "at homes" on November 27th, 28th, 29th, and 30th, to which a large number of the profession in London and the vicinity were invited. Several thousands of medical men took the opportunity to inspect the premises and the facilities afforded to the profession by the society. The guests were received in the library by the President, Sir Francis Champneys, Bart. On the evening of the first day, the following were entertained before the "at home" at a dinner held by the Society's Council Club: Sir James Porter, K.C.B. (Director-General R.N.), Sir William Lauucelot Gubbins, K.C.B., M.V.O. (Director-General A.M.S.), Sir Arthur Branfoot, K.C.I.E. (President, Medical Board, India Office), Sir Donald MacAlister, K.C.B., Dr. Langley Browne, Dr. R. Caton, Lieutenant-Colonel Sir Havelock Charles, Sir William Watson Cheyne, Bart., C.B., F.R.S., Dr. Latimer, Dr. James Little, Dr. Newsholme, C.B., Sir James Reid, Bart., G.C.V.O., K.C.B., Professor Robert Saundby, Dr. Norman Walker, Sir William Whitla, Mr. E. Parker Young. Amongst the chief attractions at the "at homes" were: An exhibition of Leduc's osmotic growths, by Mr. Deane Butcher; these growths simulate life to a remarkable degree, but are due to a purely physical process; a number of old and unique volumes, selected from the library of the society by Dr. Norman Moore, Honorary Librarian, and a demonstration by Mr. Charles Hewitt, Librarian, of old book plates, title pages, and curious extracts from some of the oldest books in the library; a cinematograph exhibition of phagocytosis, embryology, and other films of scientific interest, in the Robert Barnes Hall; an epidiascopic exhibition of specimens from the Royal College of Surgeons, selected by Mr. S. G. Shattock; a demonstration by Messrs. Leitz of their new projection apparatus, microscopes, and other scientific instruments.

THE BEIT MEMORIAL FELLOWSHIPS.

TEN Fellows were elected by the Trustees of the Beit Memorial Fellowships for Medical Research on December 12th. The fellowships are of the annual value of £250, and are held as a rule for three years, but the trustees have power in exceptional cases to extend the period for one year more. The subjects selected by the Fellows now appointed are for the most part concerned with metabolism and its disorders, and with bacterial diseases, their nature, prevention, and treatment. A Fellowship is continued to Dr. Ida Smedley, who is engaged at the Lister Institute in the investigation of the processes involved in the formation of fat in the organism. Dr. A. B. Macallum of Toronto, recently Austin Teaching Fellow in Bio-chemistry at Harvard, is working in Professor F. von Müller's laboratory in Munich at metabolism in disease, especially in relation to the formation and excretion of urea, ammonia compounds, and uric acid. Dr. Sydney Wentworth Patterson of Melbourne is to investigate at the Institute of Physiology, University College, London, diabetes and toxaemias of intestinal origin, especially the influence of different diets in the production of poisonous products. Dr. Casimir Funk of Berne, who recently received a D.Sc. research degree from the University of London, is to investigate the chemical nature and physiological properties of the substances concerned in the etiology and prevention of the so-called deficiency diseases (beri-beri, scurvy, etc.). This inquiry will be carried on at the Lister Institute. The subjects of the researches which Dr. D. V. Cow will undertake in the pharmacological laboratory at Cambridge are the diuretic action of certain tissue extracts (especially of intestinal mucous membrane), and the value of non-toxic organic compounds in the treatment of bacterial diseases. Dr. R. A. Chisholm, working in the pathological department of Guy's Hospital, is to investigate experimental nephritis. Miss E. J. Dalzell, M.B., Ch.M.Sydney, is to work at the Lister Institute at the etiology of gastro-enteric disease in infants, the influence of diet, and the protective and curative value of vaccine-therapy. At the Lister Institute, also, Dr. H. L. H. Schütze, of Melbourne, will study the modern absorption theory of the union between bacillary antigen and the antibodies of the blood serum. Dr. James McIntosh, formerly of Aberdeen, is to study in the bacteriological laboratory of the London Hospital Medical College certain problems concerning immunity to syphilis. The life-history of parasitic protozoa will be investigated by Miss H. L. M. Pixell in the protozoological laboratory of Bedford College and at the Lister Institute.

COLOUR VISION AT SEA.

THE Supplementary Question is understood to be very much disliked by Ministers, perhaps because it compels them to rely on their own knowledge without the mainstay of the permanent official. The practice is no doubt open to abuse, but it is occasionally effective in reminding the occupants of the Front Bench that they are mortal. Mr. Peto gave a pretty exhibition of the art of supplementary inquiry on Monday at the expense of the Parliamentary Secretary to the Board of Trade. He sought information, among other points, on the question why the tests for colour vision for persons serving in the Mercantile Marine are different from those for persons serving in the Royal Navy, and whether the Board of Trade intended to abolish the discredited wool test. Mr. Robertson readily replied that the Board of Trade was going, "at an early date," to adopt the tests recommended by the Departmental Committee, and that if his questioner wanted to know why the Royal Navy had adopted a better test, he must go to the Admiralty. Mr. Peto was probably prepared for an answer of this high and dry official kind, since the superior readiness of the Royal Navy to take early advantage of the progress of science is a very sore subject with the Board of Trade. At any rate, he came up on the other tack, and put in a supplemental shot by asking whether, in view of the fact that a very large number at present employed in the merchant service would be required by the navy in time of war, it might not be desirable to have the same colour vision test in both services. To this Mr. Robertson had no reply beyond a repetition of the statement that the Admiralty was the Admiralty and the Board of Trade was the Board of Trade, and that everything was correct in the best possible official world. From the First Lord of the Admiralty Mr. Peto elicited the statement that the test of colour and form vision was applied in the Royal Navy on entry, and again to officers who went through courses in the navigation school, and to any officer about whose colour vision any doubt might arise. The Board of Trade, therefore, can hope for no support from the Board of Admiralty, and after this disclosure of official inconsistency it is to be hoped that the matter will not be allowed to sleep.

INTERNATIONAL CONGRESS OF PHYSICAL EDUCATION.

IT has already been announced in the JOURNAL that the International Congress of Physical Education is to be held in Paris in March (17th–20th), 1913, under the patronage of M Fallières, President, and M. Loubet, ex-President of the French Republic. Among the honorary presidents are Professor Chantemesse, Dr. Landouzy, Dean of the Paris Faculty of Medicine, and Dr. Roux, Director of the Pasteur Institute. Professor Gilbert is Chairman of the Organization Committee; the General Secretary is M. Georges Weiss, Professor of Physics in the Faculty of Medicine. The British Committee includes Sir Lauder Brunton, Dr. A. Waller, and Dr. Cyriax. The work of the Congress will be arranged under different headings as follows:—I. Scientific group: Physiology of physical exercises (President, Professor Richer); cinesitherapy (President, M. Lucas-Championnière). II. Paedogogic group: Physical training in schools (President, Dr. Mathieu), military preparation, military gymnastics, riding, shooting, etc. (President, Dr. Chappuis, senator). III. Application group: Games and sports; touring, Alpine climbing, aviation, yachting, boating. IV. Female group: The physical education of women; influence of sports on the female organs; the improvement of the race through the mother, etc. There will be an exposition in connexion with the Congress under the presidency of Professor Gilbert. Dr. Cyriax, 4, Craven Hill, Lancaster Gate, W., who is President of the British Committee, will be pleased to give any further information that may be desired.

NOTICE TO CORRESPONDENTS.

OWING to the Christmas holidays it will be necessary to send the JOURNAL for next week (December 28th) to press on Monday next. Correspondents who may desire to address the JOURNAL are requested to take note of this fact. Communications cannot be received after Monday morning, and it will be difficult, if not impossible, to deal with lengthy communications received on that date.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Compensation for Tuberculous Animals.—On December 16th Mr. Runciman informed Mr. C. Bathurst that the compensation to be paid for animals slaughtered as tuberculous would be payable in connexion with the administration of the Board of Agriculture under the Diseases of Animals Acts. The Board proposed to make an order providing for the compulsory slaughter of bovine animals in certain cases suffering from tuberculosis, and for the payment of compensation by the local authorities. The Treasury had agreed to refund to the local authorities one-half of the net cost, and it was estimated that the amount so refunded by the Treasury would be £60,000 in the first year.

Colour Vision Tests.—Mr. Peto asked, on December 16th the President of the Board of Trade for information as to why the tests in colour vision applied to those serving in the mercantile marine were different from those serving in the Royal Navy; whether it had been brought to his knowledge that the wool tests which were at present in vogue at Board of Trade examinations were wholly discredited in the way of reliability; and whether he would take into consideration the desirability of abolishing both present and proposed Board of Trade tests for colour blindness, with a view to substituting practical tests in colour vision under conditions as they prevailed at sea and under the ordinary circumstances of service in the mercantile marine. Mr. Robertson answered that the whole question of the colour vision tests applied to candidates for certificates of competency in the mercantile marine had been fully investigated by a strong Departmental Committee, and the tests which they had recommended for adoption would be brought into force at an early date. The reasons which led the Committee to recommend these tests would be found stated in their report. He must refer the hon. member to the Admiralty for information as to their reasons for adopting the colour vision tests used for officers in the Royal Navy. Mr. Peto said that in view of the fact that a very large number at present employed in the merchant service might be required to enter into the Admiralty service, was it not thought desirable to have the same colour vision test in both services? Mr. Robertson said that was a question for the Admiralty. The Board of Trade was proceeding on the recommendations of the Departmental Committee. On the same day Mr. Peto asked the First Lord of the Admiralty at what period the tests in colour and form vision were applied to executive officers in the Royal Navy; whether these tests must be undergone on entering the service; and whether once an officer had shown proficiency in these tests they were not further applied. The First Lord of the Admiralty said that these tests had to be undergone on first entry into the service. They were further applied to officers who went through courses in the navigation school, and also to officers as to whose colour perception any doubt might arise.

Medical Inspection of Recruits.—Mr. Jesse Collings asked the Secretary of State for War, on December 11th, how many men offered themselves as recruits during the years 1910 and 1911 respectively, how many of them were, on medical inspection, rejected as unfit for service, and how many of those passed as fit for service were, within three or six months of enlistment, discharged as unfit for service. Colonel Seely referred to pages 45, 47, and 57 of the General Annual Report for last year (Cd. 6065) for full information. The figures specially asked for were as follows:

	Year ending 30-9-10.		30-9-11.
Offered themselves as recruits (served with notice papers) ...	63,751	...	65,724
Rejected by medical officers (both before and after attestation, but before joing units) ...	13,735	...	12,304
Discharged within three months of enlistment for medical reasons	551	...	516

He added that no information regarding discharges for medical reasons of men with between three and six months' service was available.

Flannelette.—The Home Secretary, in replying to a question by Mr. Joynson-Hicks on December 16th, said he was aware that various makes of flannelette were sold under misleading descriptions. With regard to taking steps either by legislation or otherwise to forbid their sale, he was waiting for suggestions as to the prescription of practical standards and tests with a view to the introduction of legislation.

Medical Treatment of School Children in Scotland.—The Secretary for Scotland, on December 16th, informed Mr. Barnes that he was giving careful consideration to the case Allan *v.* the Glasgow School Board, in which the Scottish Court had decided that medical attention and treatment could not be given to school children.

Mental Deficiency Bill.—Mr. Ellis Griffith, in replying to a question by Mr. Austen Chamberlain, on December 12th, said that resolutions in favour of legislation on the lines of the Report of the Royal Commission on the Feeble-minded had been received at the Home Office from 14 county councils, 44 borough councils, 110 education committees, 6 urban district councils, and 280 boards of guardians. Many of the bodies had sent in more than one resolution on the subject, and the total number of resolutions in favour of legislation received at the Home Office was about 800. He could not say how many resolutions had been received by other Government departments or Cabinet Ministers.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

TREATMENT OF TUBERCULOSIS.

Views of the Local Government Board.

THE Public Health Committee of the London County Council having asked the Local Government Board[1] to define the position it desired the Council to occupy in relation to the provision of sanatoriums and other residential institutions for the treatment of tuberculosis, the receipt of a full statement from the Board was reported to the Council on December 17th.

The Board wrote that as regards dispensaries it had acted on the view suggested in the report of the Departmental Committee that the unit should be the metropolitan borough, or combination of boroughs, and the borough councils had been invited to arrange for these institutions. As regards residential institutions, the Board thought that the county of London should be the unit, and that the County Council should make the necessary arrangements. Nevertheless, the County Council should formulate and submit to the Board a complete scheme for the metropolis, so that the work proposed to be done locally through dispensaries should be properly related to the whole scheme. The Board referred to its recent circulars,[2] in which an annual maintenance grant was promised of one-half the total net cost incurred within reasonable limits in treatment at dispensaries, sanatoriums, and hospitals, forming part of a scheme dealing with all persons in the area (whether insured persons or not), after deducting the sums received from Insurance Committees and from private patients. If the County Council were willing to make itself responsible for the provision of in-patient accommodation, the grant in aid in respect of this would be paid direct. The Board would be glad to receive the observations of the Council as to the final arrangements to be made with dispensaries. In any case it seemed important that the dispensary treatment should be brought into proper relation with the general scheme for the metropolis. The Board understood that the Council had under consideration certain facultative arrangements for the provision of residential accommodation required for insured persons, and in order to enable the Council to proceed in this matter the Board had made a nominal grant of £10 to the Council as an indication that it authorized the Council to provide sanatoriums and other institutions for the treatment of persons suffering from tuberculosis. As regards capital expenditure, the Board was prepared, subject to the consent of the Treasury, to make grants in aid in accordance with the recommendations of the Departmental Committee. So far as practicable, suitable existing accommodation should be utilized, and in framing a complete scheme regard should be had to the needs of the community and not to the needs of insured persons alone.

The Public Health Committee remarked that such important financial and other considerations were involved in this communication that it would be most inadvisable for the Council to express any opinion thereon until the letter had received full consideration by the committees concerned.

Temporary Sanatorium Accommodation.

Arising out of the arrangements entered into with the Metropolitan Asylums Board for the provision of temporary accommodation for the treatment of tuberculosis (BRITISH MEDICAL JOURNAL, December 7th, p. 1639), the Public Health Committee reported to the London County Council, on December 17th, that, as a result of a conference between the Council, the Asylums Board, and the Insurance Committee for London, details with regard to accommodation, finance, etc., had been arranged. Accommodation would be provided as soon as practicable for about 130 patients, to be increased gradually until provision for about 500 persons was available. The patients were to provide their own clothing, to undertake light work under medical supervision, and to be conveyed free of charge to the Council to and from the institution. The Council was not to be liable for any expenditure in respect of the burial of patients. The Council was to arrange with the Insurance Committee for the selection of insured persons to be treated in the institution. The Insurance Committee agreed to send patients to the Council's sanatorium rather than to any other institution, and to keep on the average 400 patients therein. The Council would pay the Asylums Board the actual cost incurred in providing for the treatment received, and the Insurance Committee would pay the Council £1 15s. a week for each insured person treated in the institution. A periodical adjustment would be made from time to time, based upon the actual expenditure incurred by the Council. As to the accommodation required, the Insurance Committee estimated that, in addition to those patients already receiving sanatorium treatment, there were at the present time about 140 insured persons to be provided for, and that the number of new cases would average at least 15 each week. It was probable, therefore, that the accommodation would be utilized as soon as provided.

The Local Government Board was prepared to make a grant of three-fifths of the expenditure, and it was estimated that the payment of £1 15s. a head a week to be made by the Insurance Committee would more than cover the expenditure, which fell under three heads—capital cost of adapting premises, establishment charges incurred prior to the reception of patients, and maintenance of the institution when occupied, including cost of treatment. For purposes of comparison it might be stated that London hospitals were treating insured persons suffering from tuberculosis at £1 10s. a week each, and it was to be presumed that the hospitals were not suffering loss in this respect. The Council had no power to act in this matter until a grant had been received under Section 64 (2) of the Insurance Act, and until authority had been given by the Local Government Board for the provision of institutions for the treatment of tuberculosis. The necessary grant and authority had now been received, as indicated in the letter reported above. The committee desired to emphasize the fact that these proposals related only to a temporary arrangement to meet an emergency. It was of opinion that by entering into the proposed arrangements the Council would not be committed to any particular or general scheme for the treatment of tuberculosis within the county.

In submitting a special estimate of £8,400 for the purposes of the scheme, the Finance Committee wished to make it clear that it approved the present proposal without prejudice to the larger question of policy that the Council would have to decide in the event of its being asked by the Local Government Board to frame a general scheme for dealing with tuberculosis.

METROPOLITAN ASYLUMS BOARD AND MEDICAL EDUCATION.

The Metropolitan Asylums Board on December 14th decided to ask the Royal Commission now sitting on the subject of university education in London to consider the desirability of the Board being represented on the Senate of the University of London. It was pointed out by the Law and Parliamentary Committee that since 1889 the hospitals of the Board had been available for the clinical instruction of students, and a certificated course of study at a fever hospital was now part of the five years' curriculum of every medical student. Classes were established in the various hospitals, and up to September last a total of 6,500 students had completed the course in the Board's hospitals. Facilities had also been provided for the study of small-pox by medical men and medical students when a sufficient number of cases were under treatment. In the last few years the Board had instituted classes for the instruction in hospital administration of qualified men desirous of taking the diploma in public health. The important part taken by the Board in medical education should be recognized.

THE DEPTFORD SCHOOL CLINIC.

The third report of the Deptford School Clinic or Health Centre for the school year ending July 30th is an interesting pamphlet recording the continuance of old and the commencement of new work. The report is really made up of four reports, three by the officers and the fourth by Miss McMillan, who started the scheme and still

[1] BRITISH MEDICAL JOURNAL, November 9th, pp. 1333; and November 23rd, p. 1493.
[2] See SUPPLEMENT, December 14th, p. 666.

superintends it. The "health centre" has been recognized by the London County Council, and up to a certain point carries out the work now happily being done at school treatment centres throughout London. This part of the work is called in the booklet "Council diseases," and comprises external eye troubles, errors of refraction, ear, throat, and nose diseases. In these departments the doctors estimate refraction, take out tonsils, operate for adenoids, and otherwise help the child. Wisely also the clinic is used as a centre of education for the parents, who are encouraged to take the necessary measures for improving the health of their children. Altogether 3,744 children were seen by the doctors in these departments, and such a great amount of good work was done that we are somewhat surprised at an evident lack of departments for minor ailments and for *x*-ray work. The work of the former would seem to be attended to by a capable nurse, who last year gave treatment to over 500 children; but it should be noted that in other London County Council centres a doctor is appointed for these minor ailments, and the nurse works under him and carries out his directions. Surely this is the better plan. This obvious defect in the organization should be remedied. There are probably some difficulties in arranging for an *x*-ray department at Deptford, but the energy which has broken out in so many interesting activities in so many directions should not in the next year's report be forced to write: "We endeavour to get our cases of ringworm treated at the hospital by *x* rays."

The dental department is evidently doing splendid work, and the report shows that the London County Council is slowly (very slowly, judging from the way the proposal for some new dental centres has been hung up) is beginning to see how necessary it is that the teeth of the children should be cared for, and cared for early. Two things show how carefully the work is done here; first, that while 2,794 children attended, the number of permanent teeth extracted was only 730; and, secondly, that 4,974 teeth were stopped.

Those in charge of this health centre are making many other pioneer efforts. The report on remedial gymnastics carried on at the Evelyn Medical Homes, where breathing exercises are taught, curvatures of the spine treated, and tooth-brush drill engaged in, are examples of good "following up" work. The infancy department, the open-air, day and night schools or camps, the shower-bath and its adjuncts, and the breakfast on Scottish oatmeal, are all in the right direction, and bid fair, if carried out wisely and universally, to win the children of the very poor into paths of cleanliness and health, thereby "cutting off at its source the supply of patients to fill the costly sanatoria."

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Clinical Training in Poor Law Institutions.

The Infirmary Committee of the Belfast Guardians lately received a deputation of medical students who waited upon them to support their request that the guardians would allow a certain number of senior medical students to be admitted as resident pupils. It was stated that on an average sixty medical students pass through the Queen's University each year; that the Royal Victoria Hospital can take thirty-two resident pupils each year and the Mater Infirmorum can take sixteen; and that opportunities for the remaining twelve were necessary. The students were selected by examination; they paid 15s. a week for board; they acted under the direction of the visiting staff and were not authorized to do any work on their own responsibility. Dr. Hall, on behalf of the visiting staff, supported the proposal. Ultimately it was decided to recommend their board to inform the Local Government Board of the request, and to ask it whether students were admitted as resident pupils in any other Poor Law institution in Ireland, and also whether it would be prepared to consider a scheme with the object of introducing the system into this workhouse. The Local Government Board should be requested to offer suggestions on the matter.

Treatment of Tuberculosis.

On the advice of Dr. O'Donohoe, the Longford Insurance Committee has decided to send patients to Peamount Sanatorium without the forms being filled by local doctors. The sanatorium doctors will be called on to decide if the cases are to be retained there or returned for any reason. If this be an effort at economy it would be curious to know what proportion of the fee for the doctor's certificate will be expended in the railway fares of unsuitable patients between Longford and Peamount.

At the last meeting of the Wexford County Council, the question of the adoption of a scheme for the administration of sanatorium benefits was considered. The Council had already rejected schemes on two previous occasions. Dr. Browne, Local Government Board Medical Inspector, and Dr. O'Donoghue, representing the Insurance Commissioners, were in attendance. Dr. Browne explained that the contribution required from the County Council was £800, which would be met by a rate of ½d. in the £. An amendment was moved to appoint a tuberculosis officer at a salary of £500, to include travelling expenses. Any grant from the rates was strongly opposed on the ground that £24,000 a year was already collected in the county under the Insurance Act, representing a rate of 1s. 2½d. in the £. The amendment was rejected by 10 votes to 6. and the original scheme was rejected without a division.

Salary of Medical Officers.

At the last meeting of the Dunshaughlin Board of Guardians the application of the three medical officers for an increase of salary was discussed. The three doctors were in attendance, and it was decided by a majority to increase the salaries by £10, and that triennial increments of £10 be paid to each on the completion of five years' service, until the maximum amount of £200 had been reached. The Claremorris Board of Guardians last week received applications from the four medical officers of the union for increases of salary. The doctors, two of whom have over forty years' service, complained that they were still in receipt of the same salaries as were fixed sixty years ago. A proposal to refer the applications to a committee was defeated by a majority, and the matter then dropped.

A Dirty Workhouse.

The Local Government Board Inspector's report on Longford Workhouse makes unpleasant reading. He says that he never, from the point of view of cleanliness, saw a workhouse in such a state. The inmates were disgracefully dirty; but he did not blame the officers, as there were neither lavatories nor baths. Owing to the disastrous fire three years ago, the house was totally inadequate, both as regards size and internal arrangements, and the people were only passably clad. The sisters of mercy and the doctor did their best under adverse circumstances for the sick poor, but they had not even a hot-water supply. The guardians have decided to remedy these matters when the new building is completed next autumn. Nothing is apparently to be done in the meantime.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Dr. David Livingstone Centenary.

Considerable interest is being aroused in Glasgow in the celebration of the David Livingstone centenary, which occurs in March next. A committee—representing the University, the Corporation, the Royal Colleges of Physicians and Surgeons—and other public bodies—has arranged for an afternoon gathering in the university on March 18th, at which an oration on David Livingstone will be delivered. There will be a public service in Glasgow Cathedral on March 19th, and a Corporation reception on the evening of March 19th in the City Chambers. Further suggestions to perpetuate the memory of the explorer are the establishment of a fund to endow a memorial chair of geography in the university; the endowment of a Livingstone cottage hospital at Blantyre, his native village; and a scholarship at Anderson's College Medical School.

VITAL STATISTICS FOR SCOTLAND.

A report to the Registrar-General by Dr. James Crawford Dunlop, regarding the births, deaths, and marriages registered in Scotland during the year ending December 31st, 1910, has been issued recently.

Births.

Among the more noteworthy features of the Scottish vital statistics of the year were the lowness of the principal rates. The birth-rate, the marriage-rate, the general death-rate, and the infantile mortality-rate were all below the average. Births registered during the year numbered 124,059, which is less than in any year since 1890; the birth-rate of the year was 26.19 per 1,000, the lowest Scottish rate yet recorded since registration began—that is, since 1855.

Marriages.

Marriages numbered 30,902, this being nearly 800 more than in 1909, but less than in all other years since 1896. The marriage-rate, which was 6.52 per 1,000, is slightly higher than in 1909, but lower than in all other years since 1888, and is the seventh lowest Scottish marriage-rate since 1855.

Deaths.

Deaths registered during the year numbered 72,268, and were less than those registered in any year since 1896. The death-rate of the year was 15.26 per 1,000, the lowest death-rate yet recorded, the next lowest and the only other rate under 16 per 1,000 being that of the previous year (1909), which was 15.85. The infantile mortality-rate was 108.3 per 1,000 children registered, which, though 0.6 above that of the previous year, was unusually low. There were only three lower in any year since 1855—those of 1859, 1879, and 1909.

Tuberculosis.

The death-rates from all forms of tuberculous disease and from phthisis continued to show a decrease, and both were less than in any previous year. The death-rate from phthisis was 115 per 100,000 of the estimated population, which is in great contrast to the rates in the latter half of the last century, for from 1855 to 1886 they were constantly over 200 per 100,000, and in 1860 and in 1870 were as high as 283.

Other Diseases.

Among other diseases the death-rates from which were comparatively low or lower than in recent years were enteric fever, whooping-cough, cerebro-spinal meningitis, pneumonia, and bronchitis. Among those the death-rates of which were comparatively high were scarlet fever, measles, and cancer. The death-rate from the latter disease continues to increase. It is now fully 25 per cent. higher than ten years ago, fully 50 per cent. higher than twenty years ago, and fully 100 per cent. higher than thirty years ago. It is very doubtful, however, how much of this apparent increase is due to an increased prevalence of the disease, and how much to improvement of diagnosis.

Centenarians.

An attempt was made during the year to verify the ages of persons stated to be 100 years of age or more at the time of death, and in nine cases the fact that the person was of such an age was completely verified.

Population of Scotland.

The population of Scotland in 1901 was 4,472,103 (2,173,755 males and 2,298,348 females). According to the preliminary report of the census of 1911, the population was 4,759,445 (2,307,603 males and 2,451,842 females).

A MAN was recently fined 5s. and costs by the magistrates at Portadown for having failed to provide a fireguard in his house, and thereby causing the death of his child, aged 7 years. As pointed out by the defendant's solicitor, there was a flaw in the Act, as it was only when the unfortunate parents were in distress after the accident had occurred that the authorities had power to bring the matter before the court. More young lives might be saved if an inspector had the power of bringing parents to court for not having a fireguard, without the necessity of waiting for the occurrence of an accident.

Special Correspondence.

PARIS.

Oxaluria.—Therapeutics of Radium.—Multiple Cysts in the Liver.—Digitaline and the Blood Pressure.—Formation of Nucleated Red Blood Corpuscles.

AT the Congress of Medicine held recently in Paris, Professor Maurice Loeper discussed the pathological significance of excess of oxalates in the urine and in the different organs of the body. In health oxalates were present in the urine in the ratio of 0.5 to 2 centigrams per litre. Gelatines and substances rich in nuclein increased the oxaluria; theobromine, urotropine, and caffeine seemed to have the property of eliminating calcium oxalate. Pathological oxaluria was present in diabetes, obesity, gout, intestinal sand, and chronic rheumatism, as well as in some affections of the liver and skin. Oxalates were found in excess in the blood in several pathological conditions, including asthma, some cases of chronic rheumatism, in diabetes in advanced cases, and in some disorders of the liver. That the kidneys were important factors in the elimination of the oxalates was shown by the fact that in certain cases of nephritis the oxalates in the urine were diminished. Oxalates were eliminated also in the bile. In cases of asthma oxalates were found in the sputum, showing that these salts were eliminated by the lungs. The effects also produced by oxalates were those of a neuromuscular toxaemia—rapid breathing and an increase followed by a fall of blood pressure. As regards treatment Dr. Loeper recommended the exclusion from diet of products rich in oxalates, such as cocoa, tea, pepper, coffee, green beans, spinach, and rhubarb. Potatoes, cabbage, tomatoes, lettuce, and almost all all fruits might be allowed, as well as meat in moderation. Alkalis should be taken, and the elimination of oxalates aided by the administration of urotropine, the salts of calcium and magnesium, and phosphoric acid.

Drs. Chirom and Rubins-Duval reported to a recent meeting of the Hospitals Society a case in which a condition diagnosed as cancer of the uterus was cured by radium. The neoplasm infiltrated the broad ligament, and after two applications of radium the case was dismissed as cured. Fifteen months later the patient died from spinal-cord disease. At the *post-mortem* examination no histological evidence of cancer was found in the cicatricial tissue which had taken the place of the previously existing cancer-cell growth.

M. Tuffier recently reported an interesting case of multiple cysts of the liver to the Surgical Society of Paris. The patient, a man aged 23, had a tumour in the right hypochondrium, with bulging of the lower ribs. The swelling was hard, bossed, and irregular, but not painful; a diagnosis of hydatid cyst was made. Operation was advised and a multilocular cyst was found. The contents of the various cysts varied from a bile-stained fluid to a clear transparent liquid. One cyst, containing thick turbid fluid, extended into the liver substance, and its enucleation demanded considerable care. These cysts were greatly enlarged biliary channels. There was no hydatid cyst. Eight similar cases found on *post-mortem* examination were recorded in literature.

Drs. Jené and Godlewski have recently undertaken some interesting work on the action of digitaline on the blood pressure, and on the daily variation in blood pressure in the normal subject. The cases examined consisted of 18 normal hearts, 10 patients with cardiac lesions with good compensation, 11 cases of cardiac insufficiency, 7 cases of renal and cardiac sclerosis, 1 case of tachycardia, and 13 control cases. The blood pressure was taken before and after the administration of the digitaline. Their conclusions are that although some irregular rises of blood pressure occur after the administration of digitaline in therapeutic doses, still the daily normal range of blood pressure corresponds to the elevations observed; in other words, digitaline has no constant action on the blood pressure in the manner heretofore accepted.

Dr. Feuillé, in a short communication to the Society of Biology, stated that in the blood of the rabbit preserved in the normal condition in the incubator in glass tubes, and also in the blood vessels (the dead rabbit remaining in the

incubator) he had observed normoblastic formation taking place from the already formed red blood corpuscles. He put forward the theory that the bone marrow should perhaps be considered rather as a locality for transformation during temporary stagnation of the blood corpuscles than as the seat of new formation of blood corpuscles.

BERLIN.

Locumtenents.—The Growth of Isolated Organic Tissues.—Central Heating.

SOME weeks ago a number of Berlin medical men held a meeting in order to regulate the question of substitutes for practitioners temporarily unavailable by their patients. It was brought about partly by a lack of suitable locumtenents, partly by the often exorbitant demands made by them, and partly by the disinclination of patients to be treated in the absence of their own doctor by a medical man unknown to them. At the meeting groups of about ten practitioners were formed, each practitioner binding himself, if chosen by the patient, to take the place of a colleague whom illness or some other reason may render unavailable. Fees will be regulated and fixed. The advantage of this arrangement for the patient is obvious, since it gives him a wide choice. At present the arrangement only applies to certain districts in the east of Berlin, but corresponding schemes are in view elsewhere.

Professor H. Braus (Heidelberg) recently gave a very interesting lecture at the "Urania," a Berlin institute where popular demonstrations relating to the progress of science often take place. The lecture was an exposition of the experiments of Carrel at the Rockefeller Institute, New York, who succeeded in making animal tissues grow when isolated from their connexions. On the present occasion the growth of nerves from brain tissue was illustrated. Having isolated a single ganglion cell from an embryo frog, he showed its growth on the screen. The rapidity of the growth amounted to 0.001 mm. per second; the length to 1 mm. For such experiments an institute has been planned in Berlin.

Nowadays it is exceptional in Berlin to build a house without central heating. Its advantage is great, but every now and then drawbacks from a hygienic point of view are urged. Dr. Wolff-Eisner has recently, in the *Deutsche medizinische Wochenschrift*, specified the disadvantages of this kind of heating. According to him, ill effects on health, especially catarrhs of the larynx, are caused by the very great dryness of overheated rooms. Besides this, the dust deposited on the pipes is partly organic in character and gets decomposed by heat; hence empyrheumatic products are mixed with the air of the room. As an answer to these statements, Professor Nussbaum has asserted, in the paper *Gesundheits-ingenieur*, that these disadvantages can occur only when the central heating is faulty or improperly used. The air does not become unduly dry unless the heating is continued uninterruptedly, and this is not the case in properly managed central heating. He adds that steam-air heating, as distinct from hot-water heating, allows of easy and quick regulation of temperature. The *Verband deutscher Zentralheitungs-Industrieller* has also taken part in the discussion. It maintains that the modern system of central water-heating, when executed by a competent firm, is the most perfect heating system in hygienic and technical respects. As to the combustion of the dust on the hot pipes, this evil can be rationally prevented by not hiding the radiators in cases or grates, but, as is mostly done now, by leaving them exposed, and decorated in accordance with the general scheme of the room; then, like the furniture, they are accessible to duster and brush. If no dust accumulates, no dust can burn.

THE German Congress of Medicine will hold its thirtieth annual meeting at Wiesbaden in April, 1913 (15th to 18th), under the presidency of Professor Penzoldt of Erlangen. The principal subject proposed for discussion is the nature and treatment of fever. The discussion will be introduced by Drs. von Krehl of Heidelberg, and Hans H. Meyer of Vienna. At the request of the Organizing Committee, Professor Schittenhelm of Koenigsberg will deliver an address on the relations between anaphylaxis and fever.

Correspondence.

LORD LISTER'S EARLY CASE OF OPERATIVE TREATMENT OF FRACTURE.

SIR,—In connexion with the recent report on the Treatment of Fractures, and the address of Mr. Robert Jones, it may be of interest if I recall an early case of the operative treatment of fracture in the practice of the late Lord Lister shortly after his appointment to the chair of clinical surgery in Edinburgh, which made a vivid impression on my mind as a student.

A lad employed in a quarry in turning the handle of a winch to raise stone by a crane let go the handle, and as it rapidly revolved it struck him on the forearm. He received no medical treatment at the time, and many weeks afterwards presented himself at the Edinburgh Royal Infirmary with a useless arm. Lord Lister showed the case to his class, pointing out a badly united fracture of the middle of the shaft of the ulna, and a dislocation of the head of the radius. He expressed his intention of trying to break and reset the bone and to reduce the dislocation, pointed out the difficulty of effecting this owing to the lapse of time since the injury, and the necessity in the event of failure of cutting down upon and dividing the bone at the seat of fracture, and of excising the head of the radius if reduction were impossible after division of the ulna. After futile attempts to refracture the bone, this double operation was done under full antiseptic conditions, the wounds pursuing the normal aseptic course, the result being a perfectly useful arm. In those days, when some still flouted Lister's principles, his adherents regarded the case as a triumphant vindication of them.—I am, etc.,

December 14th. THEOBALD A. PALM, M.D.

*** The case recalled by Dr. Palm is, no doubt, that which formed the subject of Lister's paper, "On a Case illustrating the Present Aspect of the Antiseptic System in Surgery," published in the BRITISH MEDICAL JOURNAL, 1871, vol. i, p. 30, and reprinted in *The Collected Papers*, vol. ii, p. 165 (Oxford: The Clarendon Press, 1909). Any surgeon who will study these volumes will find not only that Lister in his practice anticipated methods which are only now becoming usual, but also that he discussed the problems arising with so much foresight and insight that he left little concerning principles for later elucidation.

TREATMENT OF INEBRIETY.

SIR,—May I ask you to give me space for a few remarks on Dr. Francis Hare's book on *Alcoholism*, and the review of it in the JOURNAL of December 7th, p. 1612? Dr. Hare's book is the first real attempt since the great pioneer work of the late Dr. Norman Kerr to deal adequately with the causes and treatment of alcohol inebriety. Dr. Hare has thrown much light on the causes of alcoholism not found in any existing book on the subject, and done much to show the necessity for a better understanding of the inebriate by the profession and by the public. The remarks on the causation of delirium tremens and alcoholic epilepsy and his suggested preventive treatment I am pleased fully to endorse, and hope that they will find their place in any future textbook dealing with these conditions.

I am disappointed to find that, so far from clearing up the vexed question whether inebriety as we meet it in medical practice is a vice or a disease, Dr. Hare in his book and you in your review of it give out once more that, "though alcoholism may amount to a disease, in a very large proportion of cases it is only an exaggerated self-indulgence." I am well aware that in making this statement Dr. Hare is merely corroborating the findings of the last Parliamentary Committee. That this conclusion is not the only one possible after many years' experience of inebriety and of inebriates is evident, however, from the following statement made by Dr. R. W. Branthwaite, late Medical Superintendent of the Dalrymple Home, Rickmansworth, and now His Majesty's Inspector under the Inebriates Acts, before the Twelfth International Alcoholic Congress. He said:

I do not believe any drunkard out of the eight thousand or so I have known has voluntarily and of intention made himself so.

On the contrary, I am convinced that *all who possessed sufficiently developed mental equilibrium to appreciate the seriousness of their condition*, have urgently and honestly desired and striven to lead a sober life, and failed in a struggle against *a defect or weakness* the magnitude of which a normally constituted individual is utterly incapable of fully realizing. (The italics are mine.)

Dr. Branthwaite (I think at the same Congress) has given the following definition of an inebriate:

An inebriate is an individual who may or may not desire to live soberly, but in any case cannot, unless and until some change takes place in his mental state.

If we are to accept this statement of opinion and this definition, it seems to me that we must accept the fact that pathological inebriety (we are not concerned here with occasional self-indulgent drunkenness) is neither a vice nor a disease, but a symptom of psycho-neurotic or psycho-physical disease or defect. My own experience of nearly ten years' treatment of alcoholic and other forms of inebriety leads me to accept Dr. Branthwaite's statement and definition, and to regard inebriety not as a vice or a disease, but as a symptom of psycho-neurotic or psycho-physical defect or disease, curable or incurable in proportion to the amount of disease or defect which is present and responsible for the inebriety. The less defect or disease present the more curable is the inebriety, and vice versa, the actual degree of inebriety being of less importance. I think that such a view of the nature of inebriety need in no way inculcate the doctrine that inebriety is a disease over which the inebriate has no control, and so destroy the greatest incentive to amendment, while it removes from his mind the feeling that he is held altogether responsible for behaviour which he has earnestly striven against but failed again and again to amend. He should be taught that with his submission to and co-operation in treatment his condition is curable, and that the enormous difficulties in the way of self-cure are fully recognized and understood.

Your review calls attention to the need shown by Hare for looking for a physical cause for inebriety. Experience also shows the at least equal importance of looking for psychic causes, which are generally not so apparent or easy to discover. Nothing in Dr. Hare's book leads me to alter an opinion arrived at some years ago—that it is to psycho-therapeutic treatment *in its widest sense*, with the use of drugs as adjuvants and not in any shape or form as specifics, that we must look for a cure of pathological inebriety, alcoholic and otherwise.—I am, etc.,

J. W. ASTLEY COOPER.

Ghyllwoods, near Cockermouth, Dec. 10th.

AN INTRACELLULAR PARASITE DEVELOPING INTO SPIROCHAETES.

SIR,—May I be permitted to make a few remarks on Mr. E. H. Ross's paper in your issue of December 14th?

In January of this year, prompted by clinical and pathological observation, I inquired into the life-history of the organism of syphilis. The lymphatic gland suggested itself to me as the most likely place for the other phases to occur, and I accordingly looked for and found them there. Early in September of this year Mr. E. H. Ross, who had come to the Lock Hospital for some syphilitic material, was informed by my house-surgeon, Mr. Moolgavkar, that I had been working at the subject for some months. On September 14th Mr. Ross came to see me at the Lock Hospital; wishing to give him the same facilities for research as I had myself, from that day I placed all my material unreservedly at his disposal, and asked my house-surgeon to give him every assistance possible, and, moreover, I presented him with five sections in which practically the whole life-cycle can be followed out. Surely it is customary to acknowledge the source from which material is obtained when one's work is entirely dependent thereon.

One would imagine that the jelly method was the only means by which the life-cycle of the organism of syphilis could be worked out. For showing up the intracellular phases it is on the whole preferable to the *in vivo* method of staining with borax methylene blue, but cannot compare with it in the case of the extracellular phases. With the borax methylene blue the organisms remain alive for hours, allowing fertilization to be studied with ease, as I have shown, which is by no means the case with the jelly. The extracellular phases are the most important from a diagnostic point of view, as they are more commonly seen than the intracellular in latent and tertiary syphilis, where difficulty in diagnosis is most apt to arise.

Mr. E. H. Ross's article is stated to have been received on October 11th, and in the article the spirochaetal coil is mentioned and figured, yet in Mr. H. C. Ross's letter to the *Lancet*, written October 15th, it is stated that there is no coil in the human parasite.—I am, etc.,

Wimpole Street, W., Dec. 16th. J. E. R. MCDONAGH.

THE ETIOLOGY OF BERI-BERI.

SIR,—With regard to the interesting note on the etiology of beri-beri by H. G. Browning, on p. 69 of your issue of July 13th, 1912, I should like to submit the following. Briefly, Dr. Browning states that the native crew of a ship were divided into the deck crew and the engine-room crew, both eating from the same general stock of provisions. That beri-beri developed among the engine-room crew but not among the deck crew, and that the only difference between the two crews was the fact that the deck crew lived in dry quarters while the engine-room crew lived in wet quarters. He draws the conclusion that this points to dampness playing a large if not the largest part in the causation of beri-beri.

In view of the fact that such communications serve to throw doubt upon the theory that beri-beri is caused by a deficiency in the diet—a theory which I regard as a demonstrated fact—I believe some comment may serve a useful purpose.

In the first place, the facts are not given in sufficient detail to enable any definite conclusions to be drawn. It may well have been that because of some difference in taste, caste, or religion, the food actually eaten by these two crews may have differed, although they were drawn from the same supply.

However, even granting that the two crews ate the identical articles of food in the same amounts, this fact does not necessarily militate against the deficiency theory, since the conclusion that dampness played a part in the etiology rests upon the unproved assumption that the two crews differed in no other particular than the respective dampness or dryness of their quarters. They also differed in the kind and amount of exercise taken, the amount of fresh air breathed, and possibly in many other respects.

Vedder and Clark have shown in the *Philippine Journal of Science*, Section B, vol. vii, No. 5, 1912, that the nerve cells in the cord of fowls that had developed polyneuritis as the result of a polished rice diet showed anatomic changes closely simulating those found in the nerve cells of animals that have been greatly fatigued. Moreover, typical degeneration was found in the fibres of the brain and cord, in addition to the usual changes found in the peripheral nerves. It seems, from these observations, that the neuritis preventing substance, or vitamine, is a food-stuff or building stone essential for the normal metabolism of nervous tissue. If this is true, the case reported by Dr. Browning may be explained very simply in accordance with the dietary hypothesis as follows: The men in the engine-room crew performed heavy manual labour as stokers under the adverse circumstances of excessive heat, etc. The deck crew did not perform so much work. Under these circumstances the metabolism of the nervous tissue of the engine-room crew would be much more active than in the case of the deck crew, and a much larger supply of this essential vitamine would therefore be required by the former. The same diet which might contain sufficient vitamine to maintain the deck crew in health might be utterly inadequate for the engine-room crew.

This explanation is not stated as a fact, but as a distinct possibility, and as showing that Browning's deduction that dampness played a part in the etiology of beri-beri in this instance does not necessarily follow from his observed facts.—I am, etc.,

EDWARD B. VEDDER,
Captain, Medical Corps, U. S. Army.
Board for the Study of Tropical Diseases,
United States Army,
Division Hospital, Manila, P.I.,
October 16th.

ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

SIR,—It is evident that Dr. Gostwyck and I agree more or less as to diagnosis, but differ as to treatment. I should like to make my meaning a little clearer, however. I suggested in my last letter that should certain eventualities not take place we might help ourselves by forming a society. I did not mean that this society should be an antagonistic body. Our methods would be, I had hoped, suggestive and not coercive. The principle objects of such a society would be to promote friendship between assistant medical officers, to stimulate them in their work, and to protect, support, and safeguard their interests in much the same way as the Students' Representative Council looks after the interests of students at a university.

Such a society, being composed of gentlemen, need not lower itself to the level of the illiterate worker. Take such societies as the Red Cross Society, the Motor Union, the London and Counties Medical Protection Society, the Medical Defence Union, the Research Defence Society, the British Medical Association; are these, I ask, lowered to the level of the illiterate worker? Such societies must be aggressive to some extent towards certain persons or conditions. Could the results accomplished by such societies have been accomplished by an individual alone? Would, for instance, the Commissioners in Lunacy pay as much attention to the request of an isolated assistant medical officer, specialist though he be, as they would to a request coming from a body representing most of the assistant medical officers in England; a request such as this, that new asylums should have quarters suitable for married assistant medical officers? I think not. The strength of such societies, as I have mentioned, is as the number of their members, the resources of the whole being available for the part.

I do not wish to go any further at present. This is the time for inactivity. We are waiting. There is some hope that the present state of affairs will be remedied. The question I would ask each assistant medical officer is this: "If you had a son who had qualified as a doctor, would you advise him to become an assistant medical officer in an asylum?" If not, why not?—I am, etc.,

City Asylum, Nottingham, Dec. 15th. W. J. ADAMS ERSKINE.

SIR,—The entire body of medical officers in asylums should be grateful to the BRITISH MEDICAL JOURNAL for the opportunity of discussing this subject in its columns. I have read the letters of "Assistant Medical Officer" and Dr. Erskine in your two last issues, and desire to express my appreciation and entire agreement

A certain number of recently qualified men at the outset of their career obtain an appointment as assistant medical officer in an asylum. Such a post held for a short time is not without useful experience and interest. But what of the men who continue in the service and do not take up ordinary practice again?

As an assistant medical officer of some years' standing, I must say that the prospects are little beyond those of a modest livelihood, free, indeed, from many of the worries of general practice of to-day, but yet having many limitations. The chances of the ordinary assistant medical officer obtaining a superintendency are probably not 5 per cent. Therefore men are not attracted in any great number, owing to want of certainty and the indefinite prospects of the service.

The medical superintendent receives a salary frequently double or treble that of his deputy. He has the general direction and responsibility, and his duties are largely administrative. His capacity for business management, rather than his professional qualifications or attainments, will most appeal to a lay committee, whose natural object is to keep the maintenance rate as low as possible.

But surely a fair scale of pay and recognized status for the assistant medical officer could be arranged by the asylum committee without any interference with the position and salary of the medical superintendent. In many cases the medical superintendent may lose touch with his profession more than the assistant medical officer does, and he may rarely assume any sole medical charge, but his position is strong and secure, and therefore he is free from anxiety regarding his future.

In the case of the assistant medical officer his happiness, comfort, and security of tenure used to depend largely on his relations with the medical superintendent. The Act of 1909, however, has given certain privileges and definite rights to superannuation, and now the committees of asylums are brought more intimately into relation with their staffs, and in many cases their relations with their medical officers are most cordial. Some, like myself, may be well treated and trusted as friends and colleagues, others are not. Therefore such a society of assistant medical officers as indicated in Dr. Erskine's letter would be of great advantage.

The chief points of asylum service as a career are indicated in the letter of November 30th. The advertisements always ask for an unmarried officer, and in few instances are married quarters provided; yet, when a superintendency falls vacant, a married man usually gets the appointment. This enforced celibacy is not good for the assistant medical officer; it is not fair to him as a citizen, and surely his work is as important as that of the other members of the staff.

The pay may commence at £150 per annum, but few of us, after one or two increments, rise to £250 or £300 even after many years of service. In other departments and services this is not so. The medical staffs should, like the others, have definite scales of pay.

There is a third point. The constant association with the insane, the lack of opportunities of social intercourse, the routine work and worries, may not suit every man, and I should not recommend any one who is not of equable and well-balanced temperament to take up asylum work. If a man be of quiet, steady habit of life and content with a modest fixed competency, he may find in his duties, his books, and in the entertainments and games, sufficient occupation and solace, but at present, I repeat, there is little inducement beyond this. It is not likely that many men will be found to devote themselves to special work which unfits them for other practice when the rewards are so uncertain.

Some steps should be taken to remedy the present state of affairs.—I am, etc.,

December 10th. T. P. G.

THE ROYAL SOCIETY OF MEDICINE.

SIR,—The phenomenal success of the Royal Society of Medicine—mostly due, as we must admit, to the skilful administration of the secretary, Mr. J. Y. W. MacAlister—its hydra-like advancement into fields of medical activity hitherto unprovided with the essential accessories of development, the buoyancy and exuberant vitality which it has infused into the so-called medical society work of the metropolis, its palatial home, and, above all, its valuable educative influence, are features which tend to the conviction that it has now outgrown its title. The meticulous suggestion, adopted at the general meeting on February 19th, 1907, of the present title was presumably based upon the fact that no one was able to foresee the brilliant success which the society was destined to achieve. The use of the word "society" is, I submit, a poor description to apply to the work now accomplished by the Royal Society of Medicine. A "society" merely means "a number of persons united in a community," and is applicable to any purpose for which a number of persons combines to promote a common object, as, for example, a trade union; whereas, the first purpose of the Royal Society of Medicine is that of an educative body, in the promotion of which a "community of persons" has united to advance the science and art of medicine.

There is only one word which aptly and fully expresses the objects and aims of such an organization, and that is "Academy." It possibly may have seemed immodest at the foundation of the Royal Society of Medicine to have endowed it at first with this title, but now it must be conceded that out of its abundant resources, it is possible for the society to live up to any title. Again, there is no "Academy of Medicine" in this country, nor anything which can be held to fulfil the mission of such an institution. Furthermore, the title of "Academy" carries with it the conviction of a higher tribunal than that of the word "Society." Thus, were the Royal "Society" of Medicine to become the Royal "Academy" of Medicine, the change in title might tend to raise as well as increase the influence of the already high standard of work,

the results of which the Royal Society of Medicine has become the means of disseminating throughout the world.

Another point suggests itself. Is posterity to be allowed to forget the great personal sacrifice of this generation, without which the creation of the magnificent heritage to which future medical generations will ultimately succeed would have been impossible? The American nation have not been permitted to forget the personal sacrifice of their forefathers by whom emancipation from British rule was secured. Similarly, though of course in a much less degree, I believe that the medical generations of the future should have an annual opportunity of being reminded of the strenuous personal efforts, the financial difficulties overcome by private generosity, and the personal interests surrendered, without which the scheme of the Royal Society of Medicine could never have attained fruition. An annual commemoration day of the society might thus come into being, consisting, with other details, of a lecture to be delivered by a distinguished representative of medical science, the lecture to be described by a distinctive title. By this means posterity will be reminded of their indebtedness, a rallying occasion of interest will be provided for the Fellows, and, following the steps of enterprise, the society could not fail to gain advantages by such evidence of additional and continuing vitality.—I am, etc.,

London, W., Dec. 9th. PERCY DUNN.

The Services.

REPORT ON THE HEALTH OF THE ARMY FOR 1911

THE fifty-third annual report presented to the Secretary of State for War by the Director-General, Army Medical Service, is very satisfactory.

The progress in military hygiene since the first report in 1859 has been truly marvellous; each decade of the past half-century showed improvement, slow and fluctuating at first, but culminating in the rapid advance of the past ten years, which it is noteworthy was coincident with the reorganization of the medical service into a consolidated Royal corps. As has been pointed out in previous reviews, the great betterment in army health statistics must, in accordance with the laws of averages in general vital statistics, touch a minimum somewhere, but that point is not yet reached.

Sir W. L. Gubbins, in his introductory letter, shows in the following table that the ratios for 1911 of admissions, invalids discharged, and constantly sick are the lowest on record, while deaths and home invaliding remain much the same as in 1910:

Ratios per 1,000 of Strength.

Year.	Admission.	Deaths.	Invalids Sent Home.	Invalids Finally Discharged.	Constantly Sick.
1889–1898	997.3	9.03	26.56	15.36	59.85
1899–1908	700.9	6.65	14.23	17.56	40.32
1909	504.8	4.10	10.34	8.65	28.86
1910	443.1	3.44	8.53	9.11	25.38
1911	421.1	3.47	8.71	8.09	24.28

Taking the average strength of the army as 220,000 men, this table shows since the century began a health gain equivalent to an annual addition of 6,164 men to its fighting strength, or, say, about two brigades of infantry.

Recruiting.

The number of recruits presenting fell short in 1911 of the decennial average; but this was in a measure met by the fewer rejections, largely owing to more reasonable views on the disability "loss and decay of many teeth," which experienced recruiters held were unnecessarily stringent after an outcry during the Boer war.

There was also a decrease of rejections under "defective development," which includes deficiency in height, weight, and chest measurement; but this may not be taken as meaning a general improvement in the average physique of the recruits, but rather greater care and skill on the part of the recruiters in avoiding rushing into the medical inspection room men obviously under standards. Medical officers have long advocated the employment of trustworthy and trained recruiters only on the recruiting staffs.

The shrinkage in the total recruits inspected can easily be traced to better general employment, and the serious drain of young men in emigration, especially from the rural districts of England and Scotland.

Invaliding.

That of 1911 was the lowest on record, but it must be borne in mind that for some years after the Boer war discharges continued swollen by a crop of disabilities contracted on active service.

The immense decrease—nearly two-thirds—in invaliding home from India is due to the sensible but long neglected plan of giving debilitated men a chance of recovering on the hills; it has acted admirably, and, as well known, came about by the initiative of the present Director-General when in India.

Sanitation.

The sanitary officers continue to give instruction in sanitation to all ranks and in all commands. This admirable system has for years been gradually leavening officers and men to wider collective and personal views of hygiene in all that relates to conservancy, disinfecting, cleanliness, water, and drainage.

Troops in the United Kingdom.

The sickness here does not call for much remark. Pneumonia is still the chief cause of mortality. Influenza, measles, and scarlatina were the chief infectious diseases; there was no small-pox; vaccination of men, women, and children is sedulously carried out by lymph from the Government Lymph Establishment at Hendon.

In commands the troops in the London District, as usual, have had the largest amount of sick inefficiency—much through venereal diseases. It is noted that expert officers of the Royal Army Medical College are making researches into the treatment of syphilis at the Military Hospital, Rochester Row, and find that "the administration of salvarsan, especially by the intravenous method, diminishes the time spent in hospital in each case."

Mediterranean Area.

In Gibraltar the aggregate sickness was somewhat higher from an increase in enteric cases; there is much difficulty in preventing infection from the insanitary adjacent Spanish town of La Linea, through the commingling of the civil population.

In Malta cholera was introduced among the Maltese from Tripoli, but not a single soldier was attacked; there was only 1 case of "Mediterranean fever" in an officer, and traced to goat's milk. "Sandfly fever" is being investigated by Captain Marett, R.A.M.C., as traceable to species of flies common both to Malta and Austria. In Egypt reports are satisfactory under all headings.

South Africa.

The improved conditions in this command are maintained, but there is still much to be desired in general sanitation.

India.

India, of course, always dominates, and it is thus truly satisfactory to find that "the report is the most favourable one ever recorded, and constitutes a record under all heads except for the fractional rise in the death-rate from all causes." Further, "the most notable features are the lessened incidence of enteric fever, malaria, and venereal diseases."

Paratyphoid has a close analogy to enteric but differs in certain particulars. Being less severe and less fatal it has a maximum incidence on new arrivals, and enteric inoculation has little influence on it; 85 per cent. of the European troops have been so inoculated.

Malarial admissions decreased by 3,045, and a steady war is kept up against the mosquito.

Of plague there were 9 cases and 6 deaths.

Cholera caused 38 admissions and 21 deaths.

Venereal diseases show steady decrease.

The volume under review presents as heretofore much to be commended in reports, tables, diagrams, and appendices, and in respect of condensation contrasts favourably with the more extended and voluminous reports of foreign armies.

Universities and Colleges.

UNIVERSITY OF GLASGOW.

Statistics.

THE report of statistics, etc., for the year ending September 30th, 1912, issued by the Secretary of Glasgow University Court states that the total number of students was 2,794 (including 681 women), an increase of 4 on the previous year. Of these 727 (including 82 women) were in the Faculty of Medicine. In that Faculty 122 degrees were conferred—M.D. with honours, 2; with high commendation, 1; with commendation, 10; ordinary, 11; M.B., Ch.B., with honours, 6; with commendation, 8; ordinary, 83; M.B., C.M., 1. The total number of members of the General Council of the University at September 30th was 8,245, as against 7,946 the previous year. During the year the teaching staff consisted of 35 professors, 65 lecturers, and 81 assistants and demonstrators. The salaries paid to the principal and professors amounted in all to £29,052, to lecturers to £11,154, and to assistants and demonstrators to £7,370. Pensions amounting to £5,493 were paid to retired professors.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia was held on Thursday, December 12th, Sir Thomas Barlow, Bart., K.C.V.O. being in the chair.

Address of Thanks to the President.

In accordance with a resolution passed at the last College, a document under the College Seal was presented to the President, recording the thanks of the College for his gift of 11 autograph letters of Harvey. The address, which had been composed by the Registrar (Dr. J. A. Ormerod), was as follows:

Collegium Regale Medicorum Londinense
Praesidi suo
Thomae Barlow Baronetto,
Ordinis Regii Victoriae Equiti,
Pro Epistolis undecim Harveianis
Suo sumptu et labore conquisitis
Et in bibliothecâ Collegii depositis,
per hasce litteras
Sigillo communi Collegii apposito,
Gratias agit,
Et eximium illud donum commemorat.

The Senior Censor (Dr. S. J. Sharkey) was empowered to seal this document after the meeting.

Communications.

The following communications were received: (1) From the Librarian at Windsor Castle, dated November 1st, 1912, expressing the thanks of His Majesty the King for the gift of the *Life and Works of Dr. Caius*. (2) From the Secretary of the Royal College of Surgeons, dated November 15th, reporting proceedings of the Council of that College on November 14th. (3) From the Secretary of the Royal Sanitary Institute, dated November 26th, asking the College to appoint delegates to a Congress to be held in Exeter in July next. It was left to the President to nominate the delegates. (4) From the Secretary of the International Congress of Historical Studies, dated September 10th, asking the College to appoint a delegate or delegates to attend a Congress to be held in London in April next. Dr. Norman Moore was appointed delegate of the College. (5) From the Hon. Mrs. Pember, dated October 27th and 30th, offering to the College, on behalf of Lady Davey, two engravings relating to the late Dr. Hawes. The gift was accepted with thanks. (6) From the Insurance Commissioners, intimating that resident medical officers at hospitals need not be insured under the Act.

Alteration of By-law.

It was resolved to make an alteration in By-law 179. The by-law originally stood: "No Fellow, Member, Extra-Licentiate, or Licentiate of the College shall *assume the title of Doctor, or* append to his name the title of Doctor of Medicine, or the letters M.D., or any other letters indicating that he is a graduate of a university, unless he has obtained a degree entitling him so to do." The words marked in italics have now been omitted.

Medical Education and Sanatorium Benefit.

A report was received and adopted from the committee appointed at the last comitia on October 31st (BRITISH MEDICAL JOURNAL, November 9th, p. 1345) to consider sanatorium benefit under the Insurance Act in its relation to medical education. The following resolutions drawn up by the committee were agreed to by the College:

1. That the general hospitals with medical schools be advised each to establish a department for tuberculosis, such department to form part of the general service of the hospital.
2. That the hospitals with medical schools should consider the advisability of applying for provisional "approval" as regards sanatorium benefit.
3. That in localities where it is possible the services of consulting physicians and surgeons should be utilized for consultation in cases of tuberculosis under the Insurance Act.

In view of the questions that had arisen during the discussion, it was recommended that the members of the committee should be appointed as a "Watching Committee" to consider any future Insurance Regulations on the subject of tuberculosis in their relation to medical education.

It was further resolved that copies of these resolutions should be sent to the general hospitals with medical schools, and to the Insurance Commissioners and to the Local Government Board.

The Anatomy Act.

The President announced that after a conference with the President of the Royal College of Surgeons of England a deputation consisting of the Presidents of the Royal Colleges, and representatives of the universities, and of the Examining Board, waited on the Home Secretary and explained to him the difficulties which now existed under the Anatomy Act in reference to obtaining subjects for dissection. The deputation received a sympathetic hearing, and the Home Secretary undertook to lend his aid in the matter.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on December 12th, Sir Rickman J. Godlee, Bart., President, in the chair.

The Examination in Anatomy and Physiology for the Fellowship.

A report was received from the Board of Examiners in the above subjects, making suggestions with regard to the physiological part of the examination. A memorandum was likewise read upon the same subject from a number of teachers in physiology. The matter was referred to a committee for consideration.

Diplomas.

Diplomas were granted to 30 candidates found qualified for the Fellowship at the recent examination.

Diplomas were also granted to 52 candidates found qualified for the licence in dental surgery. These candidates included one woman.

Recognition of Dental School.

The London Hospital Dental School was recognized as an institution for instruction in dental surgery.

The Recent Annual Meeting of Fellows and Members.

The Council made the following comments on the resolutions carried at the meeting of Fellows and Members held at the College on November 21st, 1912:

On Resolution I.:

> The Council are glad to find that their further action in connexion with the National Insurance Act has met with the approval and endorsement of the meeting of Fellows and Members.

On Resolution II.:

> The views of the Council with regard to the question of the direct representation of Members were fully set out in their annual report of 1907, and the Council do not think that any further statement from them is needed.

Resolution III was passed without discussion, as the meeting was breaking up. The Council did not think that any comment was needed.

International Historical Congress.

Mr. D'Arcy Power was appointed delegate to attend this Congress, which will be held in London from April 3rd to April 8th, 1913.

RESULTS OF EXAMINATIONS.

The following candidates have been approved at the examination indicated:

FINAL FELLOWSHIP.—W. P. Gowland, A. R. Finn, S. L. Graham, A. B. O'Brien, A. C. Morson, W. H. Trethowan, I. S. Wilson, W. Gilliatt, G. Ley, G. Viner, C. Mackenzie, R. M. Vick, R. Pearse, E. C. Alles, L. Bromley, H. L. Attwater. T. T. Higgins, E. C. Lindsay, W. S. Wildman, A. D. Gardner, E. L. P. Gould, W. Smith, J. O. D. Wade, S. H. Rouquette, I. Fahmy-el-Minyawi, H. Platt, J. G. Saner, D. W. Hewitt, K. Mackenzie, L. E. B. Ward.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates have been admitted to the Fellowship:

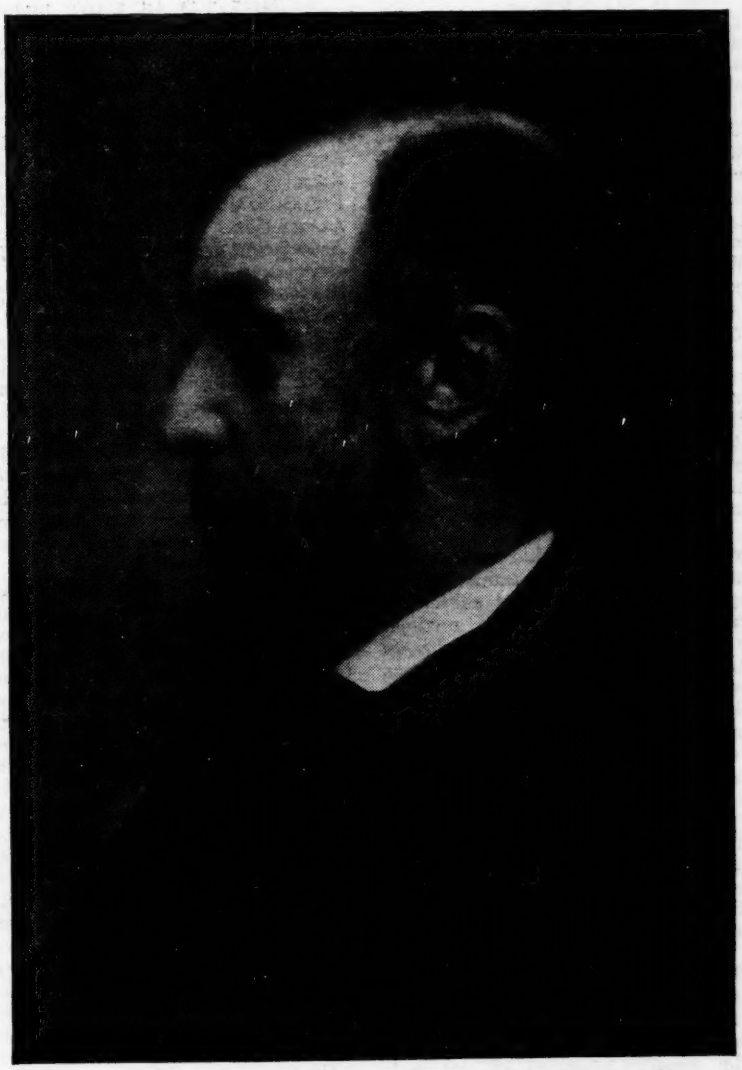
W. Anderson, F. A. F. Barnardo, Capt., I.M.S., W. W. Carlow, R. M. Gibson W. C. Grosvenor, H. F. Hamilton, W.A.M.S., J. W. Hitchcock, J. A. Lee, J. H. G. Robertson, Capt., A.M.C., New Zealand, S. Robson, P. A. Ross, D. H. Russell, N. C. Shierlaw, J. E. L. Simcox, W. P. Walker.

Obituary.

CHARLES THEODORE WILLIAMS, M.V.O., M.A., M.D.OXON., F.R.C.P.,

CONSULTING PHYSICIAN TO THE HOSPITAL FOR CONSUMPTION BROMPTON.

WE regret to have to record the death on December 15th of Dr. C. Theodore Williams, well known for his writings on pulmonary tuberculosis, and especially its climatic treatment. He had been in indifferent health for some years, but many of his friends who saw him not many weeks ago hoped that he had to some extent regained his strength and activity, and the announcement of his death will be a cause of great regret.



The Towles Studio] DR. THEODORE WILLIAMS. [*Washington, D.C.*

Charles Theodore Williams was the second son of Dr. Charles James Blasius Williams, F.R.S., Physician to University College Hospital, one of the first in this country to use the stethoscope, and one of the founders and first members of the honorary staff of the Brompton Hospital. His mother was Harriett, the daughter of Mr. James Jenkins, of Chepstow, and one time High Sheriff for Monmouthshire.

Theodore Williams was born in London on August 29th, 1838. He received his earliest education at preparatory schools at Brighton, and was then sent to Harrow. After a year there he had a severe attack of rheumatic fever, which prevented his return, and he was then placed under the tuition of the Rev. Charles Bradley of Southgate. With him he remained for two or three years. Being then greatly improved in health he entered Pembroke College, Oxford. He graduated in arts with honours in natural science, proceeding to the M.A. degree in 1862. He studied medicine at St. George's Hospital and in Paris. He took the degree of M.B.Oxford in 1864 and that of M.D. in 1869.

Showing signs of delicacy of the chest soon after qualifying, he was sent by his father for two winters to the South of France and Italy, and there he personally acquired the local knowledge which supplied the materials for his small first book, *On the Climate of the South of France and Its Varieties Most Suitable for Invalids; with Remarks on Italian and other Winter Stations* (1867). This residence in the South of France with other measures successfully re-established his health, and he was able to live and practise in London thereafter.

In 1866 he was appointed demonstrator of anatomy and physiology at St. George's Hospital Medical School, and next year honorary assistant physician to the Hospital for Consumption and Diseases of the Chest, Brompton. He became physician in 1871 and consulting physician in 1894.

He received a good introduction to consulting practice by helping his father in his work and seeing his patients in his absence. He also assisted in the preparation of his father's views and experience on the duration and the treatment of consumption asked for by the *Lancet* after his father had given evidence for the defence in the action for libel brought in 1866 by Dr. Robert Hughes against the *Pall Mall Gazette*, which had accused Dr. Hughes of quackery in the matter of pretence to be able to cure consumption. The trial excited considerable interest, and resulted in a verdict for a farthing damages for the plaintiff. Theodore Williams went over his father's notebooks containing records of 20,000 to 30,000 cases of all illnesses, and he found that the average duration of life in phthisical patients under his father's care over a period of twenty-two years had increased from the two years of Laënnec and Louis to eight years, and to above eight years in those who still survived, a considerably longer duration than any before on record. He drew up an elaborate paper on the subject, with the title "The Duration of Life in 1,000 Cases of Pulmonary Consumption among the Upper and Middle Classes," which was read and discussed at the Royal Medical and Chirurgical Society and published in vol. liv of its *Transactions*. He also became joint author with his father of a work *On Pulmonary Consumption: Its Nature, Varieties, and Treatment, with an Analysis of 1,000 Cases to Exemplify its Duration*, which was published in 1871. He contributed one-fifth of its thirty chapters, namely, those on family predisposition and other causes of consumption; haemoptysis and the haemorrhagic variety of consumption; duration; palliative treatment; treatment by dietetic and hygienic measures; and by climate. He compiled the statistical parts of the work from his father's notes, the results being incorporated chiefly in the chapters which he wrote himself. The work was well received, and Theodore Williams's share of it was looked upon as a very valuable feature of the book. It is interesting to read how Theodore showed his father the first tubercle bacilli (1882) which he had seen: "Verily, they seem the tiniest trifles to have such mighty effects; nevertheless search them out and give them no quarter till their antidote or bacillicide be discovered," wrote his father at that time. A second edition of the book, enlarged and rewritten by Theodore Williams, was published in 1882 with a slightly modified title.

In addition to giving special consideration to the expectation of life in consumptive people, Theodore Williams traced the influence of heredity in 1,000 private patients. As the result of his inquiries he came to the conclusion that 48.4 per cent. of cases of consumption were hereditary, in 12 per cent. the predisposition was inherited from the parents, and in 1 per cent. from the grandparents; whilst in the remaining cases there was a history of consumption in collaterals. With the discovery of the tubercle bacillus, and the recognition of its powers, under conditions of ventilation and habits of life favourable to its growth, of infecting people with no tuberculous history, the views as to heredity in the spread of consumption changed. Finally, Squire and others, by very careful investigations and inquiries, showed that the difference in the incidence of the disease in the offspring of tuberculous and non-tuberculous parents is very small.

In 1869, being much impressed with a paper by Sir Hermann Weber, read before the Royal Medical and Chirurgical Society, on the effect of high altitudes on the treatment of consumption, he visited Davos and examined many cases there. What he saw induced him to give full trial to the high altitudes, and the results which he obtained with over 400 cases formed the basis of his Lumleian lectures on Aërotherapeutics. His experience of the effects of high altitudes on phthisical patients was most favourable, and one most important result that impressed itself on him was that relapses were very few.

In 1876 Theodore Williams delivered the Lettsomian lectures before the Medical Society of London, his subject being "The influence of climate in the prevention and treatment of pulmonary consumption." The greater part of the four lectures consisted of a careful analysis of the results of various climates on cases under the care of his father and himself, with due reference to the results of other workers in the same field. The lectures were printed in the BRITISH MEDICAL JOURNAL in the year of their delivery, and published the following year in book form, after being revised and with large additions, chiefly under the headings of sea voyages and future health resorts.

The lectures were a very thorough and able presentation of the value of the climatic treatment of consumption, and did good work in bringing such an important subject in an accessible and readable form before the medical profession. They also stamped him as an authority on consumption. In addition to his statistical work, Williams carried out some observations and experiments in institutions which showed that by the adoption of reasonable precautions with regard to the disposal of sputum, the dust could be kept free from tubercle bacilli, and the spread of infection in this way be practically done away with.

He became a Member of the Royal College of Physicians in 1865 and Fellow in 1871. He acted as Censor in 1899–1900, and was on the Council in 1891–92–93. He read the Lumleian lectures in 1893, his subject being Aërotherapeutics in Lung Diseases. He was also a representative governor for the College of the University of Birmingham. He delivered the Harveian oration before the College in 1911 on Old and New Views on the Treatment of Consumption, afterwards published in book form (1911). In this he reviewed the various modern methods of treating consumption, giving his own experience of them. On the broader question of national attack on consumption, he was convinced that any comprehensive scheme should include the establishment of a large number of consumption hospitals scattered over the country in connexion with dispensaries and sanatoriums, and as a further link in the chain some form of labour colonies and exchanges should be available. He pointed out that the work was not for doctors only, but that local authorities should assist by dealing with overcrowding, the want of open spaces in cities, ventilation, insanitation, and by providing pure water and milk supplies.

Theodore Williams was one of those who conceived the idea and carried through its initial stages to successful institution of the National Association for the Prevention of Consumption and other Forms of Tuberculosis, which held its inaugural meeting May 4th, 1899, with the late Earl of Derby in the chair. The late King Edward was the President of the Association, and Williams was a member, and later vice-chairman, of the council and its organizing committee.

He was also a member of the advisory committee appointed by King Edward VII to adjudicate on the prizes offered for the plans for the erection of a sanatorium for tuberculosis on the best lines which past experience and original thought could suggest, and which resulted in the erection of the King Edward VII Sanatorium, Midhurst. On the completion of the sanatorium Williams was appointed consulting physician to it, and in 1907 received the M.V.O. in recognition of his services in the cause of consumption.

He was one of the founders of the Queen Alexandra Sanatorium at Davos, of which at the time of his death he was treasurer, member of council, and honorary physician.

Williams was an active member in his time of the London scientific societies, and was president at one time of the Medical Society, president and for many years chairman of council of the Medical Graduates' College and Polyclinic, twice president and treasurer for many years of the Royal Meteorological Society, and president of the Harveian Society, of the Life Assurance Medical Officers' Association, and of the Balneological and Climatological Society. He was also an honorary member of the Société Française d'Hygiène, and of the American Climatological Association. He was vice-president of the International Association for the Prevention of Tuberculosis, by which association he was awarded two medals. He was one of the four honorary presidents of the International Congress on Tuberculosis held at Washington, the other presidents being Koch, Landouzy, and Trudeau. He represented the British Government along with the late Dr. Bulstrode at the Tuberculosis International Congress held at Paris, and was special representative at the International Tuberculosis Conference held at Berlin.

He was not only one of the leading English supporters of the International Tuberculosis Congresses, but was also a member of the committee formed by the National Association for the purpose of arousing interest, collecting information, and inducing local authorities to send delegates to the meetings held abroad.

Williams took a prominent part in the proceedings of the British Congress on Tuberculosis and for the Prevention of Consumption in 1902. He was one of the vice-presidents, and opened the discussion on "Climatology: what influence has climate on the treatment of consumption, and how far can cases be grouped for treatment in certain climates?" In concluding a very full and able address he stated that, in his opinion, while not undervaluing the advantages of the hygienic treatment of consumption, a most potent weapon was to be found in climate, not only as proved by results, but because of the invaluable assistance it renders to hygiene and medicine. It was a very good second string to the sanatorium bow.

Besides the works alluded to above, Williams wrote many smaller papers for medical literature. Many of these were published in the *Transactions of the Royal Medical and Chirurgical Society*. He also wrote articles on asthma, hay fever, phthisis, Australasia, and South Africa for *Quain's Dictionary of Medicine*. Nearly all his writings were in connexion with phthisis in its manifold complexions, and many, of course, on the effects of climate on this disease.

He was a munificent benefactor of the University of Oxford, and in addition to founding two scholarships at Pembroke College, he founded four university scholarships for students of medicine. One of his most prized distinctions was his election to an honorary fellowship at Pembroke College.

He married, in 1868, Mary, daughter of John Gwyn Jeffreys, LL.D., F.R.S., a well known conchologist in the Victorian era. He is survived by his wife with whom much sympathy will be felt in her bereavement.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. Gustav Tiling, Professor of Surgery in the Helena Institute and Director of the Evangelical Hospital, St. Petersburg, and for some years editor of the *St. Petersburger medizinische Wochenschrift*; Dr. James Woods McLane, for many years

professor of obstetrics and gynaecology in the College of Physicians and Surgeons, New York, and formerly Dean of the Medical Faculty of Columbia University, aged 73; Dr. Elias von Cyon, for several years professor of physiology in the Medical Academy of St. Petersburg, author of a work on electro-therapeutics, a textbook of physiology, and a treatise on physiological experiments and vivisection (with atlas), published in 1876, aged 69; Dr. B. Panizza, sometime professor of hygiene and toxicology at Padua; and Dr. Edward Curtis, emeritus professor of materia medica and therapeutics in the New York College of Physicians and Surgeons, aged 74.

Medico-Legal.

MEDICAL TREATMENT OF SCHOOL CHILDREN.

THE First Division of the Court of Session has issued an important judgement with reference to the right of school boards to provide medical treatment for school children. The test case raised by Miss Allan as a ratepayer against the Glasgow School Board has already been referred to in our columns.

It concerned two school children requiring dental treatment whose parents were unable on account of poverty to provide it:

The School Board proposed to pay for the treatment out of the school fund, but they were threatened with an action of declarator and interdict at the instance of Miss Allan, who contended that the School Board had no power to do what they proposed. The effect of such payment by the Board would be to throw the cost of the treatment upon the school rate.

The Board maintained that they were entitled to provide and pay out of the school fund the appropriate medical or dental treatment required in such cases either (*a*) by providing the necessary apparatus and medical staff at one or more schools or other places, or (*b*) by sending the children to be treated by competent private practitioners or at hospitals or infirmaries, and that at all events they were entitled to do so in cases where the parent was unable on account of poverty or ill health to provide the necessary medical or dental treatment.

Miss Allan, the second party, on the other hand, maintained that the Board were only entitled to provide for the medical examination and supervision of pupils attending schools within their district. She maintained that the Board were not entitled to expend the school fund in providing for individual medical or dental treatment either generally or even in cases where the parent was unable on account of poverty or ill health to provide the same so as to throw the cost upon the ratepayers.

The Court has decided that where any pupil in a school within the district of the School Board required individual medical or dental treatment the Board was not entitled to provide and pay out of the school fund under its administration for such medical or dental treatment either (1) by providing the necessary apparatus and medical staff at their own schools or other places, or (2) by sending the children to private practitioners or to hospitals or infirmaries. Their lordships also held that the Board was not entitled to make provision and payment as suggested in cases where the parent was, by reason of poverty or ill health, unable to provide the necessary medical or dental treatment.

The Lord President, in delivering the unanimous judgement of the four judges, said that while the Act compelled the School Board, if required by the department, to provide medical examination and supervision, Parliament, if it had meant to include treatment, could easily have said so. If Parliament had meant to give the power of incurring the enormous expense of the medical and surgical treatment of all children of school age, and charging it to the ratepayers, it would have done so by plain words which needed no sedulous construction to make them bear that meaning.

It has since been pointed out that the decision applies only to the fund in the hands of the School Board derived from the local rates, and would not apply to money voted by Parliament to the Scottish Education Department, which this year amounted to £7,500, and is mainly allocated for the medical treatment of tuberculous children.

Dr. A. BANKS RAFFLE, Barrister (School Medical Officer, South Shields Education Authority), writes: The publicity which has been given to the case of Allen *v.* the Glasgow School Board renders it necessary that the position under English law should be well known. The effect of the above case will probably be to hamper the work of commencing medical treatment of school children under authorities where it is not already carried out.

The Education (Scotland) Act, 1908, Sect. 4, only provides for medical inspection and supervision. The Education (Administrative Provisions) Act, 1907, which applies to England, provides for the medical inspection of school children, and "such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools" (Sect. 13, 1 (*b*)). Moreover, the Local Education Authorities (Medical Treatment) Act, 1909, Sect. 1, clearly interprets the meaning of Section 13 of the Act of 1907. The first part of this section runs: "Where any local education authority provides for the medical treatment of children attending any public elementary school," etc.

THE DIATHERMIC APPARATUS.

Alleged Negligence: Verdict for Defendants.

IN the case of "Freeman *v.* Hall-Edwards and Emrys-Jones," the hearing of which was commenced by Mr. Justice Ridley at Birmingham on December 9th, a claim was preferred by Mr. Osborne Francis Freeman against Dr. John Francis Hall-Edwards and Dr. Emrys-Jones of Birmingham for damages for alleged negligence. The defendants denied negligence, and did not admit the alleged injuries. Mr. Parfitt, K.C., and Mr. Rowlands (instructed by Messrs. Rowlands) appeared for the plaintiff; Mr. Acland, K.C., and Mr. Joy (instructed by Messrs. Hempsons for the Medical Defence Union) for the defendants.

It appeared that in May, 1911, the plaintiff, acting on the advice of Dr. Bert Jordan and Dr. Stanley Barnes, arranged to have treatment by Dr. Hall-Edwards with diathermic apparatus with a view to curing analgesia in the legs. The apparatus used by Dr. Hall-Edwards was invented by a German doctor. It was said to have been used for the first time on the plaintiff. Having seen Dr. Hall-Edwards on two previous occasions, the plaintiff went on June 6th, 1911, when he alleged that owing to the improper application of the electrode to his leg he suffered from a blister. The plaintiff said that his leg grew worse as time went on, and in September, 1911, eczema developed. It was only on January 25th that he recovered the use of his leg. He alleged that in consequence of being away from business he lost £400. Part of his business was tea-tasting. In cross-examination the plaintiff denied that he had used sticks to get about with prior to June 6th, 1911. It was untrue that he was unable before that date to get about by himself. He said when Dr. Emrys-Jones entered the room he drew attention to his leg, and if it had not been for that he would probably have lost his leg. He said he felt no uncomfortable sensation, and was in the position of being unable to feel pain. Some years before he had had twenty-four teeth out without an anaesthetic, so he could stand a little pain. He denied that he went to see Dr. Hall-Edwards either on June 8th or 12th.

Dr. Bert Jordan, the plaintiff's private medical attendant, said that the condition of the plaintiff's leg after June 8th was such as to indicate a severe burn.

Mr. Acland (cross-examining): Was not the plaintiff suffering from locomotor ataxy?

Mr. Parfitt: I object. It is not alleged in the pleadings that the plaintiff was suffering from constitutional disease, and to allow the point to be raised at this stage would be unfair.

Mr. Justice Ridley: I will rule against it.

Mr. Acland: I apply for leave to amend, but with a respectful protest that it is unnecessary.

Eventually the learned judge refused to allow the amendment.

Dr. Stanley Barnes also gave evidence. He was being questioned as to the probable effect of the disease from which the plaintiff suffered, when Mr. Acland outlined his defence. He said that Dr. Nagelschmidt, the inventor of the apparatus, had prepared a table showing the dosage to be given in using the apparatus. He (Mr. Acland) was prepared to show that, in view of what the witness stated to him, Dr. Hall-Edwards only gave half the necessary dosage.

The judge ruled the question out, indicating, however, that it did not hinder Mr. Acland's defence.

Dr. H. E. McCready having given evidence,

Dr. C. Williams, Electro-therapeutist to the London Homoeopathic Hospital, explained the diathermic treatment; it was necessary for the electrodes to be in perfect contact with the body in order to prevent a destructive electric discharge. If there was not perfect contact, sparks were produced.

In cross-examination he said that the fact of sparks appearing during diathermic treatment was in itself evidence of negligence on the part of somebody.

A diathermic apparatus was then brought into court and explained by Mr. Acland.

Dr. Douglas Heath having given evidence,

It was proved by another witness that during the period when he was absent from work there was a considerable falling off in the turnover in the plaintiff's business.

Mr. Justice Ridley having ruled that there was a case for the defendants to answer,

Dr. Hall-Edwards, in giving evidence, said that since 1895 he had applied himself to the application of electricity for healing purposes.

At this point a question was suggested as to the skill of Dr. Hall-Edwards.

Mr. Parfitt: I shall take great care not to attack the skill or repute of Mr. Hall-Edwards.

Continuing, the witness said he had suffered from dermatitis in consequence of the use of *x* rays, and had been granted a pension by the late King. The machine in question had been in his possession for seven months before he used it on a patient. He had experimented with it daily. When the plaintiff came to his consulting-room in May he could only walk with difficulty, and had to be assisted upstairs. Every precaution was taken, and he never used more than half an ampère of current. He denied that a single spark had been seen. In his view the plaintiff had confused the high-frequency treatment with the diathermic treatment, as it was impossible to get the spark described with the diathermic machine. He did not remember Dr. Emrys-Jones pointing out anything to him. When the electrode was removed the whole surface was of a pinkish colour, which was usually the case owing to the warmth. Near the centre there was a small greyish-white patch about the size of a sixpence, which he considered of very slight importance. The nurse put some vaseline on it. He could not explain the result produced electrically, but was inclined to attribute it to some change of tissue.

In cross-examination by Mr. Parfitt, he admitted that a certain amount of experience was necessary for diathermic treatment, and could only be acquired by continuous practice and clinical observation. Half an ampère was not a high pressure diathermically. It was untrue to say that it was ten times the force used for the purpose of high-frequency treatment. As he knew of the plaintiff's analgesia, he took every precaution. The nurse never removed her hands except to get a little relief from the pressure. He did not admit that there was a bad contact or any sparking, nor was there any corrugation of the metal round the plaintiff's ankle. There was a certain amount of danger in every application he used.

Dr. Emrys-Jones, the other defendant, and Miss Gertrude Swan, the nurse who attended at the time, having given evidence,

Dr. L. Gamgee, senior assistant-surgeon to the Birmingham General Hospital, said that the appearance of a burn was partly due to the condition of the patient.

Dr. Frank Fowler said nothing had been omitted that a prudent man would have applied.

Dr. Francis Humphries also gave evidence.

Counsel having addressed the jury, and his Lordship having summed up,

The jury, after a lengthy deliberation, found a verdict for the defendants.

IRISH MEDICAL OFFICER'S LIBEL ACTION.

LAST week the hearing of an action for libel brought by Dr. T. F. Higgins, Coroner for the Queen's County, against Mr. D. Shaughnessy, farmer and shopkeeper, of Stradbally, was heard in Dublin before the Lord Chief Baron and a city special jury. The alleged libel was contained in a letter written by Mr. Shaughnessy to the clerk of the Athy Union, complaining of the condition of the doctor's dispensary at Stradbally, charging him with receiving money from medical relief patients whom he was bound to attend free, and suggesting that medicine bottles supplied by the board of guardians were appropriated by the doctor to his own use. The defendant stated that the letter was true in substance and in fact, and that it was a fair and bona fide comment made without malice, and that it was privileged. After a hearing extending over three days several questions were left to the jury, who found that the letter complained of contained certain charges, and that the defendant honestly believed them to be true, and made them to the guardians in the bona fide discharge of his duty as warden and ratepayer, but they added that there was malice on both sides. They assessed damages at one farthing, and judgement was given accordingly, together with a further sum of one farthing for costs. The Lord Chief Baron said that this was a verdict for the defendant. The counsel for the plaintiff objected to this conclusion on behalf of his client; and, on the resumption of the sitting of the Court on the following day, the judge said he had come to the conclusion that he was in error in entering a verdict for the defendant, and he accordingly changed it into a verdict for the plaintiff.

WORKMEN'S COMPENSATION.

Hernia and Strain.

IN Dunlop and Co., Ltd., *v.* Smith (Court of Session, October 18th) it appeared that the applicant was working as a bottomer in the employment of the appellants. On February 10th, 1912, while assisting another workman to replace a derailed hutch on the rails he strained himself and contracted hernia, which incapacitated him for work. Sheriff-substitute Glegg (Airdrie) found as a matter of fact that the hernia from which Smith suffered did not originate in the strain of February 10th. It was present prior to that date, but was so small as not to incapacitate Smith for work or to make him aware of its presence. The strain of February 10th caused it to become more pronounced, and for the first time to incapacitate him for work. On these facts the Sheriff-substitute found that Smith was injured by accident arising out of and in the course of his employment, and awarded him 12s. 6d. a week compensation.

The Court of Session affirmed the judgement of the Sheriff-substitute.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A COUNCIL meeting of this association was held at 34, Copthall Avenue, London Wall, E.C., on December 10th. In the absence of Dr. Balding, Dr. Holder (Hull) was voted to the chair.

A letter was read from Mr. H. W. S. Francis, Secretary to the Departmental Committee of the Local Government Board, thanking the association for its report on the draft order: "I have read the report with much interest, and it will be, I think, of material assistance to my committee." The council were of opinion that the association was much indebted to Drs. Thackray Parson and Toogood for the care they had given to the report.

Fees for Visiting Boarded-out Children.

A letter was read from Dr. Kinneir (Horsham) asking whether he was entitled to a fee of 2s. 6d. for quarterly visits to boarded-out children. He had always had this fee in the past, but was now refused.

The Honorary Secretary had written to the inquirer pointing out that under a Local Government Board Order issued at the end of 1911 these fees had been abolished, but in the same order it was advised that attendance on such children should be paid for as an extra, and that the work should not be put on the medical officer in whose district the boarding place happened to be as part of his ordinary duties. Not infrequently children belonging to all the districts of a union were sent to a boarding place in one particular district. It was not just that the medical officer of that district should be responsible for all these children, but as the law was he might have an order given him by the relieving officer to attend any of them. Dr. Holder said that in Hull the guardians employed him to attend such children, and paid him his own charges for the work. It was thought by the council that this was a very satisfactory arrangement, and a wish was expressed generally that other boards of guardians would follow the example of the Hull Guardians.

Attendance on Patients of Other Practitioners.

A letter was read from another member complaining that he had been required by his relieving officer to visit and give a certificate for a patient under the care of another doctor, who was willing himself to certify, and objected to another practitioner calling on his patient, and that the objection was upheld by the local profession. He had declined to carry out this instruction, and wished to know whether his duties required him to act in so unprofessional a manner.

The Honorary Secretary had written that unhappily under the Poor Law orders, a district medical officer was obliged to visit any patient, when he had an order from his relieving officer, whether under another doctor or not. In the case related relief had been asked for, and under a recent order relief could not be given without a certificate from the medical officer. It was quite clear that it was now one of the duties of a district medical officer to visit such cases if required, although it was to be regretted that the recent order tended to compel Poor Law medical officers to violate certain rules of professional ethics. At the same time it must be admitted that something similar occurred in the case of all public medical services.

The Winchester Case.

A letter was read from the Secretary of the National Poor Law Officers' Association, in which it was noted that no further steps were to be taken in regard to the matter of Dr. Todd and the Winchester Guardians, but the writer said, "In event of a repetition of similar action with reference to the appointment of a medical officer by any board of guardians in the future," that his association would at once take action.

Appointment at Leek.

The Honorary Secretary reported that in the matter of the appointment by the Leek Guardians of a medical officer resident five miles away from his district, the following letter had been sent to the Local Government Board:

October 9th, 1912.

Sir,

I am instructed by my Council to draw the attention of your Honourable Board to the frequency with which District Medical Officers are being appointed throughout the country, who are not resident in their districts, where there are resident practitioners amply fitted for the post. My Council note with regret that permission has been given to an appointment by the Leek Guardians for one year, where the officer resides five miles away from his district.

Not long ago the Maidstone Guardians appointed a country practitioner as medical officer to an urban district, a long way from his residence, although there were two candidates among the five that presented themselves, living in the district.

The same abuse was recently attempted by the Newark Guardians, and a public scandal only avoided by the appointee after election retiring in favour of a practitioner resident in the district.

My Council would strongly urge on your Honourable Board that the fact of a non-resident practitioner having a surgery within the district, ought not to weigh against the advantage of a resident officer. The emergencies most necessary to take precautions against, are cases of sudden illness occurring during the night. Residence alone, within

the district can render it possible for the medical officer to afford those services to the sick poor which are expected from him by the public.

I am,
Yours truly,
MAJOR GREENWOOD,
Hon. Sec.

Rt. Hon. John Burns, M.P.,
President of the Local Government Board.

Resignations of Medical Officers at Burnley.

The council then considered the recent action of the district medical officers of the Burnley Union. They—nine in number—had just sent in their resignations on account of the inadequate remuneration for their services. The case had been taken up by the Burnley Division of the British Medical Association, and it was thought that no local practitioner would apply for any of the vacant offices. A circular had been issued by the Division, showing the respective salaries paid in adjoining unions, and the difference between the salaries there paid and those in the Burnley Union was very striking.

The council expressed the utmost sympathy with the Burnley practitioners, and after some discussion it was decided to memorialize the Local Government Board, pointing out the inadequate rates paid by the Burnley guardians, and requesting that no fresh appointment be sanctioned at the present salaries.

Sanatorium Benefit.

The subject of sanatorium benefit under the National Insurance Act in relation to the Poor Law next came under the consideration of the council. The Honorary Secretary drew attention to a recent meeting at Swansea of delegates from boards of guardians from all parts of Wales, at which strong exception was taken to the exclusion of paupers from treatment at the King Edward VII Memorial Institute. It appeared that it was now monopolized for the purpose of administering sanatorium benefit to insured persons. As the original object of this institution was to aid in a national crusade against tuberculosis, it was difficult to see how it could be carried out if the pauper class was altogether excluded from its operations.

The claim of the Poor Law medical officer for recognition in his attendance on phthisical cases in Poor Law practice was also considered. It was thought that in consequence of the National Insurance Act a new principle had been introduced, as medical practitioners outside the Poor Law were receiving from the State extra remueration for attendance on such cases. No difference had hitherto been made with regard to the payment for the treatment of special diseases, and the basis of the remuneration of Poor Law medical officers had been the same as in the case of other practitioners. Now it seemed that while outside the Poor Law extra payment was to be granted for the treatment of a special disease, no extra payment was to be given to the Poor Law Medical Service for treatment of the same disease within the Poor Law. This did not seem just. If the principle were right in the one case, it ought to be recognized in the other.

The matter was finally deferred for further consideration.

Association of Whole-Time Medical Officers.

The council then considered the question of a closer union between all associations of part-time medical officers, to look after their common interests. The Honorary Secretary read some letters from Dr. Belilios, of Wimbledon, on behalf of the Medical Officers of Health Association, in which it was suggested that there might be an amalgamation of all such associations by the formation of a central body consisting of delegates from the constituent associations, with a common subscription, and possibly a common journal; that the work of the present associations might still be continued through the sections. There had been a meeting of delegates on November 1st last, when they were represented by Dr. Withers Green. A subcommittee was there appointed to consider the matter further.

The council after some discussion decided that it would be willing to unite with other part-time medical officers' associations by means of a conjoint committee, but did not think it advisable to merge its independence in any central body. The Poor Law Medical Officers' Association included the Indoor Poor Law Medical Service, not a few of the posts in which were whole-time offices.

REPORTS TO THE LOCAL GOVERNMENT BOARD.

Oakengates (Shropshire) Urban District. (New Series, No 70).—The late medical officer of health of the Oakengates Urban District, where there is a population of about 12,000 persons, prior to resigning his office, complained to the Local Government Board that bad housing accommodation and the impossibility of proper isolation were responsible for the repeated occurrence of secondary cases of infectious disease in the district. The Board accordingly directed Dr. J. R. Hutchinson, one of the Board's medical inspectors, to inquire into the allegation. In a report recently issued Dr. Hutchinson states that it appears to have substantial proof. There are no cellar dwellings in the district, and only a few back-to-back houses, but a very common type of dwelling is one consisting of two bedrooms (one of which is little more than a landing on to which stairs open) and under these a fairly large kitchen and larder, the latter being ill-lighted and badly ventilated. Some are back-to-earth and very damp. Houses of this type are built in rows of eight or more, and are approached from behind by an entry in the middle of the row running under a bedroom. All available houses are occupied, including some with conditions which might possibly be held to render them unfit for human habitation. Dampness is a common feature, and is due to absence of damp proof courses and to a want of eaves gutters. Although the late medical officer of health reported adversely with respect to many houses, no serious attempt appears to have been made by the urban district council to effect a remedy. The water supply of many houses appears to be adequate, but there are said to be 226 the occupants of which depend for supplies on rain-water and unprotected shallow wells. The council's water main in many instances passes the doors of these houses. No provision has been made for the adequate isolation of cases of infectious disease in the district, although an analysis of the returns of houses invaded by scarlet fever and diphtheria in the five years ending December 31st, 1910, reveals the fact that more than one case occurred in no fewer than 30 per cent. of the total.

West Hartlepool County Borough. (New Series, No. 71).—The County Borough of West Hartlepool has a population of about 64,000 persons, and in the opinion of the Local Government Board there should be sufficient work in the town for a medical officer of health to devote his whole time to the duties of his office. With this opinion the county borough council does not agree, and has stated that the town was in first-class condition from a sanitary point of view, and that everything was so satisfactory that there would not be sufficient work for a whole-time officer. The report of Dr. E. P. Manby on the sanitary circumstances and administration of the town is quite sufficient to justify the Board in the position it has taken up. The present Medical Officer of Health, Dr. H. E. Gamlen, who was appointed in 1911, is said by Dr. Manby to be energetic and anxious to carry out his duties properly; he has made a considerable number of special inspections, but is handicapped by the calls of a large private practice. Dr. Manby points out that as the head of the Public Health Department in his district, the Medical Officer of Health must give some attention to detail in regard to the inspection of dwellings, of dairies, cowsheds and milkshops, and of all premises where food for human consumption is prepared or stored; but in addition there are broad questions to be considered and lines of policy to be evolved in regard to the public health of the district. In advising the Town Council to appoint a whole-time medical officer of health, Dr. Manby says that the council should not disregard the claims of Dr. Gamlen to the appointment, for he has already done much to acquaint himself with the duties of the office, and would soon be in a position efficiently to perform the extra work which is necessary.

Newport Pagnell Rural District. (New Series, No. 72).—The rural district of Newport Pagnell in Buckinghamshire has a population of about 20,000 persons, and the area of the district is over 67,000 acres. In this extensive and populous district there are only two inspectors of nuisances, each of whom, in addition to his ordinary duties, acts as building surveyor, supervisor of scavenging and street cleansing in certain districts, and as secretary of several parochial committees. The additional duties entailed by the Housing Regulations led the Local Government Board to believe that there should either be an addition to the staff or a rearrangement of the duties. This view is upheld by Dr. Wilfred Fletcher, whose report on the district has lately been issued. He states that on the whole there is a sufficiency of habitable houses for people of the working classes, though unquestionably much is required in the way of renovation and repair, the most striking defects being the disrepair of the roofs of thatched cottages. A noteworthy feature is the remarkably low rents charged for quite habitable dwellings. In one parish owned by one of the Oxford colleges, good cottages with two rooms down and two up are let at sixpence a week, and others with two rooms and a scullery on the ground floor and three bedrooms are let at one shilling a week. It is stated in the report that the Medical Officer of Health, Dr. Digby White, during the ten years he has held office, has been the means of effecting many improvements throughout the district. During his earlier years of service he found the district council very apathetic, but in recent years the members have shown more inclination to listen to the advice of the officers, and great improvements have been made with respect to water supplies, sewerage and house drainage, excremental disposal, etc. Dr. Fletcher suggests that, in view of the amount of work entailed on the Medical Officer of Health, and of the manner in which Dr. White discharges his duty, his salary of £120 per annum might well be increased.

DR. W. S. SYME has been re-elected honorary secretary and treasurer of the Scottish Otological and Laryngological Society. Its next meeting is to be held in May, at the Victoria Infirmary, Glasgow, under the chairmanship of Dr. Brown Kelly.

PROFESSOR GUIDO BACCELLI of Rome will shortly celebrate his 80th birthday. A committee has been formed to decide upon a suitable memorial of the distinguished physician and statesman.

THE Newry Port Sanitary Authority at its last meeting appointed Dr. Richard Flood as medical officer at a salary of £20 per annum. It was decided at the same meeting to advertise for a subsanitary officer at a salary of £5 per annum.

Medical News.

THE Carlow Guardians have, by 13 votes to 5, rescinded a former resolution which ordered the prosecution of vaccination defaulters.

SIR PATRICK MANSON, G.C.M.G., and the late Dr. Andrew Duncan were appointed upon their retirement consulting physicians to the Albert Dock Hospital attached to the London School of Tropical Medicine. They have been succeeded in the wards by Dr. F. M. Sandwith and Dr. C. W. Daniels, while Dr. G. C. Low has been appointed assistant physician.

THE Hunterian Society will hold its meetings for the remainder of the present session at St. Bartholomew's Hospital, by the kind permission of the authorities. On the completion of the alterations now in progress at the London Institution, the society will, it is hoped, resume its meetings there, thus preserving a connexion of forty-six years' standing—or about one-half the time of existence of the society.

THE Court of Common Council, at a meeting on December 12th, after two ballots, finally selected Dr. W. J. Howarth to succeed Dr. Collingridge as Medical Officer of Health for the City of London. The appointment, however, will not become active for some months, as it is not until March that Dr. Collingridge is expected actually to vacate his office. Dr. Howarth, a graduate of the Victoria University of Manchester, is at present Medical Officer of Health for the County of Kent, and before his appointment thereto had been medical officer of health for the borough of Derby and also for Bury. He was also some four or five years ago president of the Midland branch of the Society of Medical Officers of Health.

THE third annual sale of work in aid of the funds of the Church Nursing and Ambulance Brigade of Young Women and Girls was opened by the Viscountess Frankfort de Montmorency at the Kensington Town Hall last week, when the Duchess of Westminster presented silver medals to four members of the corps in recognition of their services in cases of emergency in the London streets, one recipient having saved a woman's life by her prompt assistance. The brigade, which numbers 70 companies in London and the provinces and has over 4,000 members, in addition to those of the six Colonial contingents, was founded in 1901 for the purpose of training girls in first aid and ambulance work. Its members have already given evidence of the excellence of their training by the help they rendered in over 1,000 cases of sudden illness amongst the crowd during the funeral of the late King; and it is claimed that in time of war 40 auxiliary aid contingents, comprising more than 2,000 thoroughly trained and efficient girls, would be ready to take the field. The sale of work attracted a large number of visitors, for whose benefit an entertainment was given during the course of the afternoon by the pupils of Miss Laura Jefferies. In the evening the newly appointed officers of three London companies received their commissions, and a concert was held in which the Russian dancer, Mademoiselle Marguerite Favronowa, took part.

THE accounts submitted at the annual meeting of Livingstone College on November 28th unfortunately showed a considerable balance of expenditure over income during the year. Several previous accounts have revealed the same state of affairs, and there is now a relatively large deficit. Partly, perhaps, in view of this circumstance it is proposed to raise a special centenary fund of £10,000, of which £3,500 would be applied to clearing off a mortgage, and £1,500 spent on improvements, while the balance would form the nucleus of an endowment. It is to be hoped that the appeal will succeed, for the college does excellent work. This consists not in training missionaries to play the part of doctors, but in providing them with such information in regard to the care of their health as any man ought to possess if he proposes to settle in a tropical semi-civilized country, where medical assistance may be difficult to secure, and where he is certain to be surrounded by a number of followers for whose lives and well-being he will be responsible. It is to be regretted that all missionary societies do not make it incumbent on every prospective missionary to become acquainted with the facts of hygiene and the causation of tropical diseases, knowledge which in many circumstances would make it possible to avoid those diseases altogether. It would almost seem as if the foreign missionary societies were more enlightened in this respect, for we note that a large proportion of all the students at Livingstone College during the past academic year are employed, not by British, but by foreign societies.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

T. H. G. would be glad to hear of any means of curing a blind external fistula following a small ischio-rectal abscess in a young lady who refuses to have an operation under a general anaesthetic.

T. W. inquires whether there is a reliable apparatus for fusion training in cases of squint, cheaper than Worth's amblyoscope, and suitable for treatment.

DELTA asks for suggestions as to the cause and possible cure of the following condition: A young man, 33 years of age, has lived in Norway for the last seven years; about twelve months ago large patches of his whiskers, beard, and moustache turned pure white in colour, the rest being jet black.

GLACIAL ACETIC ACID IN PSORIASIS.

INDIA writes: All who have had cases of psoriasis to deal with must have been interested to read Dr. Cregan's experience of treatment with glacial acetic acid (November 2nd, p. 1214), but those who for many years have been seeking in vain for a cure less trying than the disease must wish that your correspondent had been a little more explicit as to the method used. Would Dr. Cregan be so good as to tell us whether the application of the acid was made once only, or once a week, or once a day, or oftener; and also whether anything else, locally, such as an ointment for the prior removal of scales, or internally, was used concurrently with the applications?

ANSWERS.

DR. THEO. M. KENDALL (London) writes: If "Samaritan" will consult the *Medical Annual* for 1911 he will find there mentioned that a combination of menthol and valerianic acid, known as validol, is recommended as the best remedy for the vomiting of pregnancy. I have tried it with good results, and, if I am not mistaken, others have referred to this combination in the columns of the JOURNAL.

TREATMENT OF VARICOSE ULCERS.

DR. J. H. DONNELL (Hinckley) writes: In reply to "J. H. M.'s" inquiry (December 14th), I think he will find calcium iodide in 10-grain doses three times a day between meals, and a reliable ointment containing allantoin or common comfrey (*Symphytum officinale*), will most probably heal the ulcers up within a month. A few skin grafts with the ointment, applied later, would probably expedite the cure.

DR. JAMES MACMUNN (London, E.C.) writes in answer to "J. H. M.": Apparently the first indications are to avoid sepsis or cure it, and to aid venous circulation. In ambulatory treatment I have found the mode of using dry boracic acid given in Thomson and Myles's *Surgery* excellent. When mere "callousness" has to be met, I rarely fail with the following: (*a*) Refresh edges by some means; (*b*) strap on daily a slice of Turkey sponge sprinkled or not with iodoform, etc., or orthoform if sensitiveness be present (this occasionally). If these measures fail (*a*) pare and undermine edges, (*b*) make a few radiating incisions, (*c*) curette or not surface of ulcer, (*d*) apply the sponge and strap over so as to pull the released edges together as far as possible. Do this as often as necessary. Lying up, of course, is necessary, and ultimately, to save time, skin grafting must be thought of, but I have often cured extensive ulcers in a short time without it. Oxygen is good. Calcium I often found to aid, sometimes to fail.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.